

RISKY BUSINESS:
A THEORETICAL MODEL APPLIED TO THE ADVANCEMENT OF
EXECUTIVE WOMEN

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In order to explain the sparse representation of women in leadership positions across U.S. society, I propose a theoretical model delineating the processes underlying executive advancement. I argue that organizational gatekeepers making hiring and promotion decisions are fundamentally engaged in a risk assessment process in which they consider both risks associated with the characteristics of the individual candidates for the position (candidate risk) and risks external to these candidates (exogenous risk). I then use the model to make specific propositions about how candidate gender affects these risk assessments, and how gender impacts which individuals advance to the executive suite.

I test the theoretical propositions related to candidate risk with two experimental studies using different sample populations and experimental designs. The results of Study 1 provide strong support for the general model, demonstrating that moderate-quality job candidates are perceived as more risky than high-quality candidates, and that as a result they are less likely to be hired than high-quality candidates. The results of Study 1 also demonstrate that because moderate-quality women are perceived as less congruent and less committed than equivalently qualified men, they are perceived as more risky candidates for hire than men, and as a result, are less likely to be hired than men. Study 2 provides additional support for my gender-

related hypotheses, demonstrating that male participants perceive women as riskier candidates for hire than men and as a result, are less likely to hire them than men. I discuss the implications for both theory and practice.

BIOGRAPHICAL SKETCH

Susan Fleming Cabrera is an educator, researcher, businesswoman, wife, and mother with deep experience and expertise in the areas of finance, investing, business strategy, organizational behavior, and issues of gender diversity. Susan began her career on Wall Street, where over a period of twelve years she held various positions in the investment community, including that of Analyst at Morgan Stanley & Co.; Vice President of Insurance Partners, L.P., a \$540 million private-equity fund; and Partner at Capital Z Financial Services Partners, a \$1.85 billion private-equity fund.

After retiring from Wall Street in 2003, Susan began work as an educator, teaching executives, investment professionals, MBAs, and undergraduates in the areas of corporate finance, insurance, valuation, and gender bias. She also enrolled at Cornell University's Johnson Graduate School of Management to pursue a Ph.D. in Management, where her research focused on better understanding the factors contributing to a dearth of women in leadership positions in U.S. society. In addition to working as an educator, researcher, and business consultant, Susan also has previously served on the boards of directors of four publicly traded companies, one private company, and a nonprofit organization; and currently serves on the board of Hanover Investors, L.P., a UK-based hedge fund; and Virtus Investment Partners, Inc., a publicly traded asset-management firm.

Susan holds a B.A. in Economics and Asian Studies (Highest Distinction) from the University of Virginia and an M.S. and Ph.D. in Management from Cornell University. Susan lives with her husband, Derek, her two-year old son, Carter, and their Bernese Mountain Dog in Ithaca, NY.

For my beloved son, Carter—may he someday live in a world where the lives of both women and men are unconstrained by bias, ignorance, and oppression. And for my husband, Derek—who with his brilliant ideas and passionate spirit is clearly helping to make that world a reality.

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CHAPTER 1: INTRODUCTION

We still think of a powerful man as a born leader and a powerful woman as an anomaly.

—Margaret Atwood

Our Census demonstrates that between 2002 and 2005, the percentage of corporate officer positions held by women increased a total of just 0.7 percentage points to 16.4 percent. This rate of increase is significantly lower than we have seen in previous years, and it is echoed in equally low increases in all other data we collected. In other words, progress has almost come to a standstill.

—2005 Catalyst Census of Women Corporate Officers and Top Earners of the *Fortune* 500 (Catalyst, 2006)

A snail could crawl the entire length of the Great Wall of China in 212 years, just slightly longer than the 200 years it will take for women to be equally represented in Parliament.

—2008 UK Sex and Power Report (U.K. Equality and Human Rights Commission, 2008)

By many standards, women have made tremendous strides over the last half-century in attaining greater representation among leadership positions in the U.S. However, when compared with the fact that women now represent nearly half of the U.S. workforce (U.S. Department of Labor Women's Bureau, 2005), a majority of college graduates, and more than a third of mid-level managers and new MBAs, their representation in positions of leadership within the business world remains relatively low (Catalyst, 2006). This phenomenon is not unique to the U.S.; women are generally underrepresented in leadership positions throughout the world (Rhode & Kellerman, 2007). Why are there still so few women at the top? In this dissertation, I attempt to partially address this question by focusing on the demand-side of the equation, that is, by explicating some of the factors that drive lower demand for hiring and promoting

women into executive positions relative to that for men. First, I propose a theoretical risk assessment model that delineates the cognitive processes undertaken by gatekeepers who make hiring and promotion decisions within organizations. According to this risk assessment model, the hiring decision process undertaken by organizational gatekeepers includes assessment of two key categories of risk factors: those risk factors that are external to the candidate being evaluated (termed exogenous risk) and those risks factors associated with the individual characteristics of the candidate (termed candidate risk). Underlying candidate risk are at least four key factors that any decision maker considers; these include the competence, congruence, commitment, and credibility (the “Four Cs”) of the candidates. I then extend the model to explicitly consider the different ways in which the gender of a job candidate affects assessments of risk and, in turn, hiring and promotion decisions. According to the theory, as a result of both conscious and unconscious biases employed by men and women in our society, women may be disadvantaged in assessments of each of the key factors of competence, congruence, commitment, and credibility, and as a result, are perceived as riskier candidates and therefore hired and promoted less frequently than men.

Through two experimental lab studies, I test several of the key research questions raised in the theoretical model: 1) Do decision makers attribute higher downside risk to hiring or promoting individuals who are perceived as less competent, congruent, committed, and credible? 2) Are women, as is suggested by the existing research literature, perceived as less competent, congruent, committed, and credible than men, and as a result is higher downside risk attributed to hiring and promoting women than to hiring or promoting men? and 3) Does a higher attribution of downside risk to hiring and promoting women relative to men result in women being hired and promoted less frequently than men? By using experimental designs in which I can

control the objective qualifications of candidates for hire and promotion, I am able to compare assessments of the candidates to determine whether gender impacts evaluations, attributions of risk, and hiring recommendations, suggesting bias on the part of the participants.

In sum, by proposing and empirically testing a theoretical framework integrating existing knowledge from research in the fields of risk and gender studies, I hope to advance our understanding of the often subtle and unconsciously biased processes that contribute to the lack of women in leadership positions, as well as to provide actual organizations with knowledge that can be used to mitigate such processes.

Dissertation Overview

In Chapter 2, I present a new risk model of executive selection that delineates the cognitive processes undertaken by gatekeepers who make hiring and promotion decisions within organizations. I then extend this model to explicitly consider the different ways in which the gender of a job candidate affects assessments of competence, congruence, commitment, credibility, and perceived risk and, in turn, how these gendered assessments influence hiring and promotion decisions. In addition, I draw upon this theoretical model to develop a series of specific propositions about how perceptions of quality influence assessment of risk and hiring, and how men and women will be assessed differently with respect to each of these elements.

I undertook my first tests of the theoretical model via a controlled experimental study (Study 1), which is discussed in Chapter 3. Through this study, I sought to first provide a general test of the risk model of executive selection, in particular investigating whether the quality of a candidate influences the degree to which they

are perceived as a “risky” hire as well as whether perceived candidate risk influences the likelihood of that candidate being hired for a position (Propositions 2 and 3). I also sought to test whether gender influences assessments of candidate risk, such that women are perceived as less competent, congruent, committed, and credible than men and whether, as a result, women are seen as having higher candidate risk and therefore, are less likely to be hired than men (Propositions 5, 6, 8, and 9). Finally, I sought to extend the propositions presented in the risk model of executive selection to investigate the question of how candidate quality interacts with gender to influence assessments of the Four Cs and candidate risk and, in turn, decisions to hire. To do this, I designed a vignette experiment in which participants were asked to read a job posting for a company seeking to hire a senior executive and a description of a supposedly real candidate who applied for the position, and then were asked to evaluate the candidate. The experiment followed a 2×2 between-subjects design in which I manipulated the quality and gender of the candidate being evaluated. Overall, the study provides strong support for the propositions tested. However, Study 1 does have some limitations, in that it used a simple vignette instead of realistic materials that would typically be reviewed by a hiring manager; my subjects were undergraduates who are unlikely to be experienced in making hiring decisions; and the participants were not asked to evaluate a male and female candidate side-by-side.

In order to address the limitations of Study 1, as well as attempt to replicate its findings, I carried out a second experimental study (Study 2), which is presented in Chapter 4. This study employed a within-subjects design in which MBA students were asked to evaluate two candidates of equal quality for an executive position, one male and one female. The materials they were provided to do this were realistic in nature, including a summary of the candidate by an executive recruiter, a cover letter written by the candidate, and the candidate’s resume. In Study 2, I focused entirely on the

gender-related propositions presented in Chapter 2, specifically Propositions 3, 5, 6, 8, and 9 relating gender to assessments of the Four Cs, the influence of these assessments on perceived candidate risk and, in turn, on hiring decisions. My findings provided further support for my proposed theoretical model. However, this was only true for male participants. In most instances, the female participants either did not evaluate the men and women candidates differently from one another, or they favored the women candidates over the men. Interestingly, this distinction was generally driven by whether the female participant was a U.S. citizen or permanent resident or not; U.S.-citizen females were more biased in favor of the women candidates, while non-U.S.-citizen females tended to rate men and women candidates equally.

Finally, Chapter 5 provides a general discussion of my findings across the two studies, as well as the theoretical and managerial implications of my dissertation as a whole. I also identify some of the limitations of this work and what I see as the most promising avenues for future research building upon both the theoretical and empirical work presented herein.

CHAPTER 2:

THE RISK MODEL OF EXECUTIVE SELECTION

By many standards, women have made tremendous progress toward achieving equality in U.S. society. Women now represent 46% of the U.S. workforce (U.S. Department of Labor Women's Bureau, 2005), 37% of managers, 57% of college graduates, 35% of new MBAs (Catalyst, 2006), and 45% of new PhDs (Hoffer et al., 2005). However, despite these impressive achievements, the representation of women in leadership positions across U.S. society, in fields as varied as business, law, government, and education, remains quite low. In the business realm, a recent study of the gender composition of executive officers of Fortune 1000 companies starkly demonstrates this fact (Helfat, Harris, & Wolfson, 2006). According to the study, in 2000, women made up only 8.25% of Fortune 1000 senior executives; even more startling, 48% of the companies had no women executives, 29% had only one woman executive, and only 23% of the total had more than one woman executive. This apparent disconnect between the large percentage of women entering business and the very small percentage of women who are actually reaching its pinnacle suggests that powerful processes are working to disproportionately divert women relative to men as both groups attempt to advance their careers upward. As a result of this filtering effect not only are there fewer women in leadership positions, but fewer women are even being considered for senior executive positions. So, what dynamics underlie this filtering effect?

In this chapter, I attempt to address this question by focusing on the demand side of the equation, that is, by explicating some of the factors that drive lower demand for hiring and promoting women into executive positions relative to that for men. First, I propose a *risk assessment* model that delineates the cognitive processes

undertaken by gatekeepers who make hiring and promotion decisions within organizations. I then consider how these decisions accumulate across a career to influence whether any individual man or woman reaches the level of senior executive. Finally, I extend the model to explicitly consider the different ways in which the gender of a job candidate affects assessments of risk and, in turn, hiring and promotion decisions. In the chapters that follow, I present the results of two experimental studies that test Propositions 2, 3, 5, 6, 8 and 9 of the model presented herein.

Although our theoretical focus is on demand-side explanations for the lack of women in senior leadership positions and I intend to experimentally control for any supply-side effects in tests of our model, I acknowledge that alternative supply-side explanations for this phenomenon have also been offered. These have variously included arguments such as that there is a “pipeline” problem created by a lack of qualified women that will correct itself over time as more women earn advanced degrees and move through the professional promotion track; and that women simply do not aspire to the same levels of advancement as men (Schultz, 1990). While the pipeline argument held credence when initially offered several decades ago, it must be called seriously into question by the ongoing inconsistency between the number of women in leadership positions and the fact that women have represented more than 40% of the workforce since 1980 (Toossi, 2002) and, nearly 25 years ago, earned almost half of the undergraduate and nearly a third of the graduate degrees in business (Eagly & Karau, 2002; Freeman, 2004). In other words, a large number of women have been entering the pipeline for a long time, yet change in the gender composition of corporate leaders has not reflected this trend.

The second supply-side explanation—that women are inherently less interested in career advancement than men—is not empirically supported. Two studies have demonstrated that men and women managers in similar organizational positions hold

the same desire for advancement (Catalyst, 2004; Markham, South, Bonjean, & Corder, 1985), while two others have shown that while women have in some instances reported lower aspirations for advancement, this difference is driven by organizational position (Cassirer & Reskin, 2000; Litzky & Greenhaus, 2007). That is, after controlling for structural factors such as the nature of position held, perceptions of opportunity for advancement, and perceptions of congruence between gender and the typical characteristics of the senior manager position, women and men do not differ in their desire to advance in their careers.

A Risk Assessment Model

The selection of a top management team is one of the most critical strategic decisions undertaken by an organization (Gupta, 1992; Guthrie & Datta, 1998; Westphal & Frederickson, 2001). Further, each hiring or promotion decision includes a complex set of processes undertaken by an organizational gatekeeper such as an HR manager, a CEO, or a board of directors. Herein, I consider the hiring process from the perspective of an organizational gatekeeper tasked with making an executive hire. In reality, this gatekeeper may be a single individual or a group—perhaps relying on HR professionals external to their firm—as hiring and promotion decisions, particularly at the top of organizations, can be complex. For simplicity, throughout this paper I refer to the gatekeeper as an individual; however, the underlying processes and biases delineated herein may also be applicable to a group.

Fundamental to such strategic decisions, including those regarding products, services, adoption of new technologies, or strategies (Cho & Lee, 2006), is a risk assessment process in which the decision maker weighs the relative risks and rewards of various decision scenarios in an effort to arrive at an optimal choice (Baird & Thomas, 1985; McNamara & Bromiley, 1999). Thus, I argue that while organizational

gatekeepers tasked with hiring a new executive are likely to consider many variables, at a basic level they are also engaged in a risk assessment process. Risk arises when “a decision or action produces social and economic consequences that cannot be estimated with certainty” (Conchar, Zinkhan, Peters, & Olavarrieta, 2004). In the instance of our organizational gatekeeper, the risk with which the decision maker is concerned is the potential for negative consequences or losses for either the organization or the decision maker himself that may result from making a poor executive hire. Such potential negative consequences for the organization might include poor performance by an executive who is not capable of doing the job—at the senior level, this could result in bad strategic or financial decisions that have long-lasting effects; wasted time and financial resources when an executive is terminated after a long, costly, and visible recruitment process; disruption of the workplace or declining morale due to a poorly performing executive or the need to replace that executive (Friedman & Saul, 1991); damage to the reputation of the company (Davies & Mian, 2006) such that shareholders may sell stock, clients may lose confidence and take their business elsewhere, or other potentially valuable executives may choose not to join the company. For the decision maker, potential negative consequences from making a poor hire could include career-limiting injury to that individual’s image and credibility both within and outside the organization.

More generally, I define risk using the conceptualization offered by Conchar, Zinkhan, Peters, and Olavarrieta (2004); that is, risk is “the multidimensional probability distribution of realizing losses on a range of dimensions” where losses are defined broadly, including financial, performance, physical, psychological, social and/or time, and convenience losses, and where the dimensions of risk include both the expectation or likelihood of losses and the importance or magnitude of losses (Conchar et al., 2004). Importantly, although a given situation or choice may be

characterized by an objective level of risk, assessments of risk are inherently subjective, as individuals bring to the assessment their own distinct characteristics and perspectives (Conchar et al., 2004). In other words, the objective risk and perceived risk associated with a given situation or decision often diverge, as perceptions of risk, like all perceptions, are open to biases driven by both situational and individual characteristics. In fact, there are very few real-world situations in which actual objective risk is known; this is particularly true when considering—as I am here—processes as complex and inherently subjective as assessing the capabilities and qualities of a potential employee. Moreover, it has been demonstrated that the behavior of decision makers is ultimately motivated more by perceived risk than by objective risk (Dowling & Staelin, 1994). Therefore, my focus in this chapter is on perceived risk. In particular, following an overview of my risk assessment model, I explore how gender stereotypes subtly (or overtly) influence and interact with individuals' perceptions of risk in ways that ultimately disadvantage women in their efforts to reach the executive suite.

In adopting a risk framework, I acknowledge the work of many decision-making theorists who have argued that risk behavior is influenced by 1) the larger culture or organization in which decision making is taking place; 2) the particular situational factors associated with the decision, that is, candidate suitability, and 3) the individual characteristics of the decision maker (Conchar et al., 2004; Cox, 1967; Sitkin & Pablo, 1992). Specifically, I suggest that the hiring decision process includes assessment of two key categories of risk factors: those that are external to the particular candidate being evaluated (termed *exogenous risk*) and those associated with the individual characteristics of the candidate (termed *candidate risk*). Further, I argue that assessments of both exogenous risk and candidate risk will be influenced by the particular characteristics and perspective of the decision maker. In the following

discussion, I elaborate on each of these elements in more detail, including how assessments of one set of risks may influence assessments of the other set.

Importantly, the potential losses associated with exogenous and candidate risk may accrue to the organization, the decision maker, or both parties. The decision maker is concerned with bringing in the best candidate in order to protect and advance the goals of the organization. He or she is also concerned with making a good decision because how the candidate does and, thus, how the organization does, has implications for the outcomes of the decision maker as well. Therefore, as we consider exogenous risk and candidate risk, we must consider the perspective of both the decision maker and the organization. Generally, their interests should be aligned, but the level of risk for the decision maker versus the organization as a whole may vary depending on the particular factor at hand.

Exogenous Risk

I suggest that decision makers begin the hiring process by first assessing the exogenous risk associated with the particular position being filled. By exogenous risk, I mean the risk factors associated with filling a particular position within a particular organization that are not related to the individual candidates being considered, but instead are associated with the nature of the position and the nature of the organization.

Risk factors related to the nature of the position might include the seniority and visibility of the position being filled, and the potential impact that an individual in the position being filled may have on broader organizational outcomes. Logically, the decision of whom to hire to fill the position of CEO of a company should entail potential for greater losses than the decision of who to hire to fill one of many low-level managerial positions. First, there is only one CEO position and, therefore, the

organization cannot spread its risk of making a bad decision across positions. Second, the CEO position is more senior, has greater visibility both internally and externally, and carries a much greater ability to influence the relative success of the organization than that of a low-level manager; likewise, the CEO also has much greater potential to inflict substantial losses on the organization.

Research on leadership and top management teams supports the notion that CEOs and their executive teams are important to organizational outcomes. For example, research by (Thomas, 1988) found that after controlling for organization-specific differences, leadership explained a significant portion of the variance in organizational performance not explained by environmental factors. Consistent with this finding, it has also been shown that a leader's reputation is frequently transferred to the organization he or she leads, resulting in a close correlation between the two (Davies & Mian, 2006). Given this linkage, and the fact that reputation is a potential source of competitive advantage (Fombrun & Shanley, 1990), organizations must be particularly concerned with hiring the "right" CEO. In addition to this research supporting the importance of leadership at the organizational level, other empirical research has established the importance of leadership behavior to the performance of teams, including top management teams (Hambrick & Finkelstein, 1987; Pfeffer & Davis-Blake, 1986). In summary, I argue that given the relative importance to organizations of more senior-level executives, the decisions about whom to hire to fill these positions will be perceived as carrying greater exogenous risk than decisions regarding the hiring of lower-level employees.

Assessments of exogenous risk will also be influenced by risk factors related to the nature of the organization, including its normative culture around risk-taking, the overall legitimacy and external support of the organization, and the perceived threat or opportunity of the specific context in which the position is embedded. Culture

establishes normative values and influences individuals' behavior (Hackman, 1992). Research by Rynes and Gerhardt (1990) confirms that there is greater congruence in assessments of candidates by recruiters from the same firm than between those from different firms. Presumably a culturally driven standard exists within organizations that dictates the qualifications desired of successful candidates for a particular position. Also inherent in such normative values is the degree to which experimentation or nonnormative decision making is encouraged and "incorrect" decisions are tolerated. When individuals are not fearful of reprisal for failure, they are less afraid to discuss mistakes (Edmondson, 1996) and more likely to undertake new tasks (Dweck & Leggett, 1988), both of which may contribute to individuals making decisions that carry higher levels of uncertainty or perceived risk. This is demonstrated by an empirical paper investigating the propensity of women MBAs to advocate for management attention to gender-equity issues within their organizations (Ashford, Rothbard, Piderit, & Dutton, 1998). Specifically, the authors found that women were more likely to perceive lower image risk and, as a result, more likely to sell potentially controversial gender-equity issues in organizations with norms that supported such issue-selling. In summary, I argue that to the extent that an organization has a culture in which risk-taking is encouraged, tolerance for failure on the part of a decision maker should be higher, and therefore the decision maker should perceive the exogenous risk associated with making a hiring decision as lower. In contrast, if an organization does not have a culture of risk-taking, then the decision maker should perceive exogenous risk as higher.

Second, I argue that the level of exogenous risk associated with making an executive hire will also be influenced by the overall legitimacy and external support of the organization in which the hire is occurring. According to resource dependence theory, no organization is self-sufficient; in order to survive, all organizations must

engage in resource exchanges with the environment (Pfeffer & Salancik, 1978). These resource exchanges create dependencies between organizations and their environments, which include customers, shareholders, labor, competitors, and regulatory bodies. Further, organizations are often subject to multiple and conflicting demands from their environment that must be managed so that the most important resources are attained. Those organizations that are less resource-dependent and therefore subject to fewer demands from their environment should have greater autonomy and greater ability to take risks in making strategic decisions such as the hiring of an executive team. This line of reasoning is also consistent with institutional theory (DiMaggio & Powell, 1983; Meyer & Rowan, 1991). According to the theory, key to any organization's survival and success is its ability to establish and maintain legitimacy with its many constituents (Suchman, 1995). Those organizations with greater legitimacy and whose existence is more institutionalized should have greater leeway in making risky decisions than those that are seen as less legitimate (Meyer & Rowan, 1991). Therefore, organizations that have high organizational support and legitimacy with key constituencies should assess the exogenous risk associated with making an executive hire as lower. In common parlance, these organizations are more likely to be given a "free pass" if they do make a hiring mistake; thus the magnitude of losses for the organization in terms of factors such as reputation, the ability to access a pipeline of talent to bring in a replacement candidate, and the ability to maintain employee morale should be lower. In summary, the potential for losses (i.e., exogenous risk) to an organization of making a poor executive hire should be lower when it has high support and legitimacy and low resource dependence; when an organization is lacking in these characteristics, perceived exogenous risk should be higher.

Finally, the degree to which the hire takes place in an organizational context in which it is viewed as creating an opportunity or minimizing a threat can also influence the exogenous risk associated with the hiring decision (Jackson & Dutton, 1988; Kahneman & Tversky, 1979; Sitkin & Weingart, 1995). Previous research has established that individuals tend to be more risk-seeking when they are faced with a loss or threat than when they are confronted with the potential for a gain or opportunity. This tendency suggests that hiring decisions made in a context in which a loss is expected or a threat is apparent may be perceived as possessing less exogenous risk. For example, when an organization is on the brink of shutdown with very little hope for survival, the board of directors may perceive the selection of an unproven or nonnormative executive as a somewhat less risky endeavor than when the company is on stable footing (Ryan & Haslam, 2007).

In summary, I argue that implicit in any hiring or promotion decision is an assessment of exogenous risk that is formulated based on risk factors associated with the nature of the position and the nature of the organization. These factors may include the seniority and visibility of the position and the ability of its incumbent to affect organizational outcomes, as well as the normative culture of the organization, the organization's overall external legitimacy, support and level of resource dependence, and the degree to which the hiring decision is perceived as addressing either a threat or an opportunity. Further, this assessment will have an important influence on the ultimate outcome of the decision process.

Proposition 1a. The exogenous risk associated with a hiring decision will be greater for positions of greater seniority and visibility.

Proposition 1b. The exogenous risk associated with a hiring decision will be greater in organizations with higher resource dependence, with normative cultures

that do not encourage risk-taking, and where the hiring decision is perceived as creating an opportunity.

Candidate Risk

Aided by at least a preliminary assessment of exogenous risk, the decision maker can begin to formulate a set of qualities required for the position to be used in assessing candidate risk. By candidate risk, I mean the risk factors associated with filling a position that are directly related to the characteristics of the individual candidates being considered. While particular employers may consider many different criteria in determining whether a candidate will be successful in a position, I suggest that this process would likely involve 1) some type of job analysis to determine the knowledge, skills, and abilities required to carry out the job successfully (termed here as *competence*) (Edwards, 1991); 2) an evaluation of the particular values and characteristics that are consistent with the employing organization and previous position holders (termed here as *congruence*) (Kristof-Brown, Zimmerman, & Johnson, 2005); and 3) a determination of the required level of affective commitment to the organization (termed here as *commitment*) (Shore, Barksdale, & Shore, 1995). Finally, I argue that after devising specific standards for competence, congruence, and commitment, decision makers' final assessment of any candidate will be determined based on the degree to which that candidate meets these specific standards and, as a result, evokes more generalized feelings of trust, expertise, and liking (Hovland, Janis, & Kelley, 1982). I have termed this more nuanced assessment, which encompasses but also goes beyond a strict evaluation of the candidate's competence, congruence, and commitment, as *credibility*.

Based on the initial assessment of exogenous risk and development of a set of criteria for assessing candidate risk, a group of appropriate candidates can be sought.

Depending on the position, this may involve a wide variety of recruitment strategies and sources. A discussion of the recruitment literature is beyond the scope of this chapter; however, several researchers have written thorough reviews on the topic (Barber, 1998; Breaugh & Starke, 2000). Importantly, all three elements of the process so far—assessment of exogenous risk, development of a set of criteria for the position, and the actual method used for recruitment—will substantially influence the type of candidates actually considered. A more cynical but realistic view suggests that the characteristics of the initial candidates informally identified may also act in the manner of a feedback loop to influence the particular criteria used for assessment, such as when an organizational gatekeeper identifies a “favorite” candidate, or when a position is created for a particular individual.

Those individuals who are best positioned with respect to all elements will be most likely to be given the opportunity to be considered for the position. Other individuals who may know about the job opening but who do not appear to meet the standards for the position, or individuals who are clearly qualified for the position but who do not know about it, may never have the opportunity to be considered for the job. Thus, I refer to the universe of positions that an individual is aware of, is actually qualified for, and is also perceived to be qualified for as the *opportunity structure* within which an individual is positioned.

Once the decision maker has identified an initial group of candidates for consideration, he or she will evaluate the candidate risk—specifically, the risk that the candidate will ultimately not meet the standard for competence, congruence, commitment, and credibility required by the position—of each person being considered. The processes by which these evaluations are conducted are varied. In some instances candidates are evaluated relative to one another. In others the candidates are, at least ostensibly, compared with an objective standard, although in

reality, it is likely that the assessments of any one candidate would be anchored by the perceived qualities of another (Highhouse & Gallo, 1997; Jagacinski, 1991; Slaughter, Bagger, & Li, 2006). Further, the weighting of the component criteria in assessments of candidate risk will vary depending on the organizational context in which the hiring is being conducted. Research on risky decision making suggests that the more uncertainty there is about a candidate's suitability, the "riskier" a hire the candidate will be perceived to be, independent of the exogenous risk associated with the hiring decision (Cox, 1967; Thaler, 1991). In this way, candidate risk mediates the relationship between assessments of competence, congruence, commitment, and credibility, and the decision to hire any particular individual.

Proposition 2. In hiring decisions, candidates who are lower in competence, congruence, commitment, and/or credibility will be perceived as carrying greater candidate risk than candidates higher in competence, congruence, commitment, and/or credibility.

Proposition 3. In hiring decisions, candidates who are perceived as carrying greater candidate risk will be less likely to be hired than candidates who are perceived as carrying less candidate risk.

Further, I argue that assessments of exogenous risk act as a moderator on the relationship between the level of candidate risk and the decision to hire; when the exogenous risk is higher, an individual with a certain level of candidate risk will be less likely to be hired, and vice versa. For example, an individual who is perceived to have a lower level of qualifications and therefore is assessed as a "risky" candidate is more likely to be hired when the position is unimportant, when the organization encourages experimentation and failure is not punished, or when the organization has high credibility or is not dependent on external supporters for approval. Put another way, if the expectation of losses stemming from exogenous risk factors is lower, then

the decision maker or organization may be able to tolerate a higher expectation of losses from risk factors related to the candidate. Alternatively, if exogenous risk appears to be very high, then the decision maker is likely to have lower tolerance for candidate risk and thus will effectively raise the standard required for an individual to be hired. This is consistent with research on management buyouts (Kaplan & Stein, 1993) and venture capital investing (Hendershott, 2004) that shows that when investors are operating in a market environment that is highly favorable to new companies, such as occurred during the dot.com era of 1995 to 2000, they are more likely to back entrepreneurs with less experience and companies with less-established track records. In contrast, following the collapse of Internet-stock valuations in 2001, venture capital investing substantially decreased and the standards for attaining VC funds became much higher.

Proposition 4. The level of exogenous risk associated with the hiring decision will moderate the effects of perceived candidate risk on hiring decisions.

Thus, as illustrated in Figure 1, the determination to hire results from the decision maker's assessment of *candidate risk* within the context of the perceived *exogenous risk* associated with the decision.

Decision Maker Characteristics

Finally, I argue that one last element of the hiring decision process must be considered. Given our focus on executive-level hires, the decision maker referred to above may be another senior executive or executives, a CEO, or even a member or members of the board of directors. Whatever the specific attributes and attitudes of this person or group of persons, the key point is that the particular constellation of characteristics that define an individual *does* affect the hiring decisions they make. No two individuals will perceive the same decision as carrying the exact same level of

risk; in other words, risk is perceptual and depends on the vantage point of the decision maker (Cox, 1967).

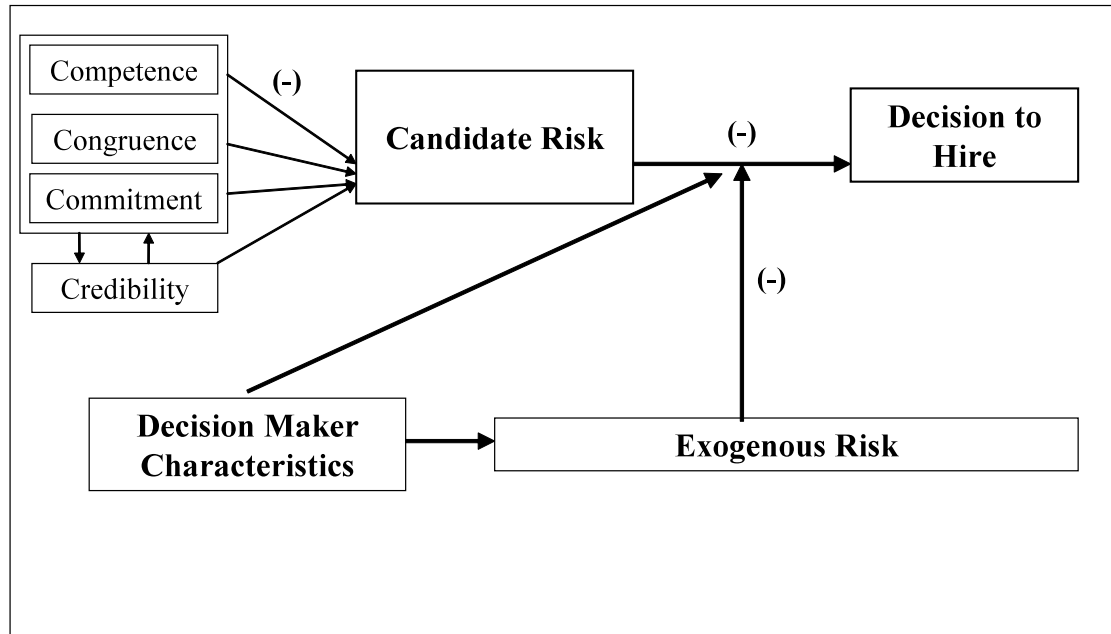


Figure 2.1. An Illustration of the Risk Model of Executive Advancement

This suggests that individual decision makers will diverge in their perception of both exogenous risk and candidate risk. First, individuals diverge in their desire to make the “best” decision versus any reasonable decision (Staw, Bell, & Clausen, 1986). Some individuals are driven to deliver the best outcomes given the time and resources available; others are content to settle on the first reasonable solution that emerges. Beyond personal motivation, individuals diverge in the amount of risk they perceive in any situation (risk perception), their willingness to assume risk in general (risk affinity), and their willingness to assume risk in specific instances (risk propensity). Researchers have found that individuals’ risk tolerance is affected by their personality characteristics (Nicholson, Soane, Fenton-O’Creevy, & Willman, 2005), gender (Arch, 1993), personal experience with risky decisions (Forlani, Mullins, & Walker, 2002; Sitkin & Weingart, 1995; Taylor, Hall, Cosier, & Goodwin, 1996); as

well as their sense of self-efficacy regarding the current decision outcome (Krueger & Dickinson, 1994; Locander & Hermann, 1979) and the degree to which they expect to regret their decision (Thaler, 1991).

Furthermore, individuals consider how others will evaluate their risk-related behaviors. Individuals with higher status and power are often less concerned about the perceptions of others (Depret & Fiske, 1999) and are afforded more idiosyncratic credit to deviate from decision-making norms (Hollander, 1958). Consequently, one might imagine that the higher the status of an individual, the more willing he or she might be to act on his or her own preferences, assuming the risk of making nontraditional decisions and feeling unafraid of being perceived as biased toward similar others (Loyd, 2006). Finally, the number of people responsible for making the hiring decision will affect the amount of risk assumed. Specifically, groups have been found to assume levels of risk in their decision making that individual decision makers are unwilling to undertake (Neale, Bazerman, Northcraft, & Alperson, 1986).

In summary, I argue that the specific combination of characteristics, personality, desires, and perceptions of any given decision maker or group of decision makers will interact with the particular characteristics of the candidate and the position at hand to have a potentially important influence on the decision outcome.

Path to the Top

Having delineated the key elements of the hiring decision process, I now shift perspective to that of the individual professional attempting to reach the level of senior executive. For any such professional, the hiring and promotion decision-making process described above is likely to occur repeatedly throughout the span of a career. I argue that it is the accumulated effects of these key decisions that ultimately determine whether an individual makes it “to the top.” Specifically, each hiring or promotion

decision individually affects the set of future opportunities open to the individual. These include the chance to develop greater human capital, credibility, network contacts, and sponsors; to demonstrate commitment to company and career; and to attain the characteristics and skills of a successful executive, all of which will be required to move further up the corporate ladder. When an individual fails to be hired, these same opportunities may either be delayed or, ultimately, closed off. Further, those individuals who are repeatedly denied advancement may become discouraged and, as a result, opt to invest in areas in which they receive positive reinforcement, rather than struggling to succeed in areas in which they are made to feel deficient (Fels, 2004; Litzky & Greenhaus, 2007). Additionally, the pattern of historical hiring decisions in any one organization or industry is likely to influence hiring norms and to influence the assessments of exogenous risk associated with future hiring decisions. Thus, I argue that it is this larger career-spanning process that ultimately determines who makes it to the top.

Differences in the Decision Process: Men versus Women

With the proposed model for executive advancement in mind, I now turn to consider how some of the processes underlying the model may operate to create substantially different outcomes for men and women. First, I make a few comments on gender. Ridgeway and Correll (2004b: 510) describe gender as “an institutionalized system of social practices for constituting people as two significantly different categories, men and women, and organizing social relations of inequality on the basis of that difference.” For example, according to status characteristics theory, individuals hold the diffuse belief that women are less competent than men and, as a result, assign women to a lower status position than men (Berger, Fisek, Norman, & Zelditch, 1977). Importantly, while this system of gender beliefs is always at work as a

“background identity in social relational contexts” (Ridgeway & Correll, 2004b: 516), its influence will vary depending on the salience of gender in any given situation. For example, contexts in which the tasks are particularly gender-typed, or where there is a predominance of individuals of one gender (such as in many professional contexts), might result in gender being particularly salient, while in situations in which groups are composed of one gender, are carrying out a gender-neutral task, or are gender-balanced in composition, gender may slip into the background and have no impact (Mullen, 1991; Ridgeway & Correll, 2004b; Taylor, 1981). When activated, however, these institutionalized gender beliefs can have a powerful influence, biasing “the extent to which a woman, compared to a similar man, asserts herself in the situation, the attention she receives, her influence, the quality of her performances, the way she is evaluated, and her own and others’ inferences about her abilities at the tasks that are central to the context” (Ridgeway & Correll, 2004b: 519).

I emphasize these dynamics for two reasons. First, as the dominant basis for categorization across virtually all social contexts (Zemore, Fiske, & Kim, 2000), gender is ubiquitous as at least a background identity in virtually all contexts and all interactions. As such, as we consider the processes occurring within any given organization or to any particular individual, we must always recognize that those organizations and individuals (and their particular cultures and identities) are operating within a broader social context that is rife with powerful, institutionalized gender beliefs. Second, because women are in the minority in most professional contexts—and particularly so at more senior executive levels—gender is nearly always salient in interactions and therefore strongly or subtly influencing behavior, expectations, and outcomes.

Candidate Risk—Considering Gender

In considering the impact of gender on assessments of candidate risk, I draw heavily upon existing research that has identified many “small inequalities” between the evaluation of men and women in the workplace. While the size of these differences may be small enough so as to individually seem trivial, because these inequalities are embedded in the decision processes that occur time and again throughout a career, they gradually compound to create the large differences in observed outcomes discussed above. This process, known in the field of sociology as the “accumulation of advantage and disadvantage,” highlights the importance of identifying even small incidents of bias, “because they add up to major inequalities” (Valian, 1998).

As discussed above, at least four key elements are considered when assessing an individual’s suitability for employment or promotion: the individual’s likely competence at meeting the requirements of the job; his or her congruence with the industry type, job type, decision maker, and subordinates associated with the position; the degree of commitment that the individual is expected to have to the employer and job; and encompassing these three elements, as well as generalized feelings of trust, expertise, and liking (Hovland et al., 1982), his or her overall credibility. In this section, I will look at the gender dynamics associated with each of the four elements and how a gendered view of risk assessment ultimately affects hiring decisions. Toward this end I review the vast literature that supports the relationship between candidate gender and competence and congruence, but refrain from presenting propositions given the already well-documented empirical findings. I more explicitly introduce propositions that consider the relationship between candidate gender and commitment, credibility, candidate risk and hiring.

Competence. Most evaluations of an individual for hire or promotion include an assessment of that person’s likely competence at performing the position in

question. Thus, examining the way in which competence is evaluated and attributed differently for men and women is crucial to understanding their divergent career paths and outcomes.

With regard to the evaluation of competence, the disadvantaged position of women is both empirically well established and manifold. Status characteristics theory is an important extension of expectation states theory, which predicts that status within a group is determined by the relative competence-based performance expectations of the members of the group (Berger et al., 1977). According to the theory, certain attributes (known as “status characteristics”) such as gender, race, age, or social class are associated with varying levels of task competence, such that individuals possessing one level of the attribute (i.e., men) are considered to be more competent and of higher status than individuals possessing the other level of the attribute (i.e., women). When individuals within a group differ on some status characteristic, they use this difference as the basis for assigning expectations about future performance to each individual. As a result of these different performance expectations, individuals with higher status and expectations are given more opportunities to contribute to the group, their contributions are considered more and evaluated more highly, and they are able to exert greater influence (Berger et al., 1977). In this way, the interaction of status characteristics, expectations, and opportunities serves to create a “self-fulfilling prophecy” in which the initial low performance expectations for lower-status group members, such as women, become reality (Ridgeway, 2001).

As discussed above, importantly, these expectations and associated assessments of status are formed around status characteristics only when the characteristics are differentiating attributes of group members and are therefore salient. Consistent with status characteristics theory, substantial empirical research has demonstrated that women are believed to be less competent than men, not only with

respect to tasks in general but, even more so, with respect to tasks that are typically male-typed (Carli & Eagly, 1999; Meeker & Weitzel-O'Neill, 1977; Wood & Karten, 1986). Importantly, these beliefs may be held by women as well as men, suggesting that they influence women's own self-evaluations, as well as external evaluations of women by others. Further, because these stereotypes are widely held cultural beliefs that are generally known by nearly everyone in our society, even individuals who do not endorse these stereotypes may use them in determining what behavior is appropriate. For example, if a person who holds nonstereotypical beliefs is interacting with or accountable to individuals whom they believe do endorse gender stereotypes, that person may behave consistently with the stereotypical beliefs so as to avoid sanctioning or disapproval. As Ridgeway and Correll argued, "If I assume that most people share a status belief, then I expect they will act in accord with that belief themselves and that they will judge me according to it. As a consequence, I must take that belief into account in shaping my own behavior whether or not I personally endorse the belief" (Ridgeway & Correll, 2006, p. 434).

Adding to the assumption of lower competence with which women must contend, research has shown that the same level of performance by a woman is often evaluated more negatively than that of a man (Heilman, 1983; Nieva & Gutek, 1980). This is particularly true when evaluators are provided with ambiguous or insufficient information about the quality of performance (Heilman, 1995, 2001; Heilman, Wallen, Fuchs, & Tamkins, 2004; Nieva & Gutek, 1980; Tosi & Einbender, 1985) or in situations such as hiring decisions, where the evaluators are required to make inferences about future performance from past behavior (Nieva & Gutek, 1980). In these instances, faced with uncertainty, individuals tend to fall back on stereotypes in making evaluations—stereotypes that typically disadvantage women. It is also particularly true with respect to evaluation of women's performance at male-typed

tasks (Swim, Borgida, Maruyama, & Myers, 1989) and when women are significantly in the minority (Heilman, 1980; Sackett, Dubois, & Noe, 1991; Valian, 1998). In both of these instances, gender is especially salient, triggering low-status beliefs about women and highlighting the inconsistency of their task-role with the role prescribed for women.

Beliefs about the lesser competence of women can also affect actual performance, as a result of both external limitations on women's opportunities and of women's own negative self-perceptions. In task groups, women are given fewer opportunities to contribute, are listened to less, and are evaluated less favorably, all of which create a self-fulfilling prophecy in which women actually demonstrate poorer performance (Ridgeway, 2001). Similarly, several field studies have shown that women are less likely to be offered challenging positions (Ohlott, Ruderman, & McCauley, 1994), less likely to hold line positions (Olson, Frieze, & Good, 1987), and less likely to be promoted into positions with unfamiliar responsibilities (Ruderman, Ohlott, & Kram, 1996). One explanation provided for these findings is that employers are cautious about taking risks on women and, therefore, less likely to give them "stretch" assignments (Lyness & Thompson, 2000; Ruderman et al., 1996).

Furthermore, research indicates that women are more likely than men to temporarily step off of the career path in order to meet family needs, either as the result of children or due to geographical moves that favor their spouses' careers (Gallese, 1985; Powell & Mainiero, 1992; Strober, 1982). Both of these events can result in women garnering less experience in the workforce and fewer opportunities for advancement, particularly as women must newly reestablish their credibility each time they move into a new position or company. Whatever the reason, the long-term effect of these differences in opportunities is that women are less likely to develop human capital—capital that is crucial to reaching the highest executive levels.

In addition to the effects on performance from external factors, the negative status beliefs that women hold about themselves can also decrease performance. Steele and Aronson's (1995) work on stereotype threat accounts for this phenomenon, explaining that when individuals are aware of broadly held negative stereotypes about their group's intelligence, they may experience self-threat out of fear of confirming or being evaluated by this negative stereotype. This self-evaluative threat in turn may cause arousal, self-consciousness, or frustration, or divert attention away from the task at hand, thus resulting in poorer performance on the task. Numerous empirical studies have demonstrated the effects of stereotype threat. In one study, female subjects who were told that women score poorly on a math test performed worse than male subjects on the test, while female subjects who were told that there were no gender differences on the test scored the same as the male subjects (Spencer, Steele, & Quinn, 1999). Another study by Shih, Pittinsky, and Ambady (1999) showed that when Asian women were threatened with negative stereotypes about women's poor math ability, they underperformed on a math test, while when the same group was primed with *positive* stereotypes about Asians' excellent math ability, they outperformed on the same test.

In addition to lower expectations and evaluations of women's performance, Foschi (2000) and Foddy and Smithson (1999) each have proposed that a "double standard" is applied to women when assessing the presence or lack of ability at a task. According to these empirically well-established theories (Foschi, 1996; Foschi, Lai, & Sigerson, 1994; Foschi, Sigerson, & Lembesis, 1995), because women are expected to be less competent than men, their performance is subject to greater scrutiny and they are required to provide more evidence in order to be deemed competent. Conversely, when women demonstrate poor performance, they are more quickly deemed to be incompetent than a man who, presumed competent, might be given the "benefit of the

doubt.” Further, they argue that double standards are activated only when gender becomes associated with the task at hand and is therefore salient (Foschi, 2000).

Finally, once women have demonstrated success, they face yet one more obstacle—the tendency of both observers and women themselves to attribute causality for successful performance to factors other than ability. Since ability attributions are important indicators of future job performance and thus useful to supervisors in making both hiring decisions and determining promotions, they may represent an important additional factor that limits the career advancement of women (Greenhaus & Parasuraman, 1993; Pazy, 1986). Several studies have found that women’s success on male-typed tasks was attributed to luck (Cash, Gillen, & Burns, 1977; Deaux & Emswiller, 1974) or to effort (Etaugh & Brown, 1975; Feldman & Kiesler, 1974), while men’s success was attributed to ability. Similarly, in the case of unsuccessful performance, attributions of lack of ability were more likely to be made for women than for men (Cash et al., 1977; Deaux & Emswiller, 1974).

In summary, women are believed to be less competent than men and thus are given fewer opportunities to disprove this belief and to develop greater human capital; their actual performance is evaluated less favorably than men’s; they are held to a higher standard for proving their competence such that the same level of competence that proves ability for a man may not prove ability for a women; and their success is more likely to be attributed to unstable or external factors such as luck and ease of task.

Congruence. The impact of congruence between individuals and their work environments on employee attitudes and behavior and on organizational outcomes has been the subject of study for more than 100 years (Kristof-Brown et al., 2005; Lewin, 1935; Murray, 1938; Parsons, 1909; Pervin, 1968). Initially, “person-environment” fit was broadly defined as “the compatibility between an individual and a work

environment that occurs when their characteristics are well matched” (Kristof-Brown et al., 2005: 281). Over the last few decades, however, the multidimensional nature of fit has now been clearly acknowledged and variously includes the study of person-organization fit, person-group fit, person-job fit, and person-supervisor fit (Law, Wong, & Mobley, 1998). In their extensive meta-analysis of the field, (Kristof-Brown et al., 2005: 325) found “conclusive evidence that fit matters to applicants, recruiters and employees. It influences their attitudes, decisions and behaviors in the work domain” including effects on performance, turnover, job satisfaction, organizational commitment, satisfaction with coworkers, and satisfaction with supervisors. Disconcertingly, however, they also found that while recruiters’ employment decisions are heavily influenced by perceptions of fit, “these perceptions have little, if any, connection to reality” and that instead, “they are more likely to reflect the ‘similar-to-me’ bias than true fit with the organization’s culture” (Kristof-Brown et al., 2005: 319). It is against this backdrop that I consider how considerations of congruence—both actual and, even more importantly, *perceived* congruence—with organization, job, employee group, supervisor, and recruiter affect the relative likelihood of career advancement for men and women.

Even after accounting for different assessments of the competence of men and women, perceptions of congruence (or the lack thereof) can influence the likelihood of a woman being hired. For example, even when a decision maker has determined that an individual is perfectly competent, that decision maker still may have concerns about whether the individual “feels right” for the job. Consistent with Byrne’s (1971) similarity-attraction paradigm, this lack of “comfort” is more likely to arise when the individual has different characteristics or beliefs from the decision maker. Simply put, people are more attracted to those who are like themselves. Similarly, research on intergroup attitudes and behavior has demonstrated that individuals tend to favor “in-

group” members, that is, people whom they perceive to be like themselves, over “out-group” members (Brewer & Kramer, 1985).

Both of these research paradigms—similarity attraction and intergroup research—suggest that women will often be disadvantaged in hiring and promotion as a result of their lack of congruence and out-group status relative to decision makers. This should be particularly true in highly male-dominated fields and at the most senior levels of those fields, as the individuals making hiring decisions are likely to be disproportionately men and, therefore, more likely to unconsciously favor men over women. Empirical research with respect to this prediction has been mixed. Tsui and O'Reilly (1989), in their study of performance evaluation in superior/subordinate dyads, found that subordinates were rated more poorly and were less liked when they were a different gender from their superior; and a field study by Graves and Powell (1996) found that female recruiters favored female applicants over male applicants. Further, in allocating power at the highest levels of the corporate world—board of director selection—Westphal and Zajac (1995) found that CEOs and existing directors were more likely to select new directors who were demographically similar to them, thus perpetuating the preponderance of older white males in the boardroom. In contrast, Davison and Burke's (2000) meta-analysis found that although men received higher ratings when the evaluator was a man, they also received higher ratings when the evaluator was a woman; therefore, they concluded that the predictions could not be confirmed. However, an alternative interpretation might suggest that gender-based in-group bias *was* present, but for women was masked by other effects such as generalized beliefs about women's lower competence and status that affect assessments of women by both men and women.

Another example of how women's perceived lack of fit serves to disadvantage women in management is provided by research on the “manager-as-male” stereotype.

Since the 1970s numerous studies have demonstrated that individuals do not perceive women as possessing the characteristics of a typical manager (Schein, 1973, 1975; Schein, Mueller, Lituchy, & Liu, 1996). Further, Heilman, Block, Martell, and Simon (1989) showed that even when comparing the category of “female successful middle manager” to the typical “successful middle manager,” participants still differentiated between men and women, with successful female middle managers rated significantly less likely to possess “leadership abilities” than a comparable male. In addition, introducing the qualities “successful” and “manager” to describe women, while increasing their correspondence with successful middle managers, also caused participants to rate them as more likely to possess certain negative qualities such “bitter[ness], quarrelsome[ness] and selfish[ness]” (Heilman et al., 1989).

Commitment. Affective organizational commitment has been linked to many key individual outcomes (Hunt & Morgan, 1994). In particular, those individuals who are highly committed perform better (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002), are more likely to be promoted (Cannings & Montmarquette, 1991), exhibit more prosocial behavior, and are less likely to harbor intentions to quit (Hunt & Morgan, 1994). Moreover, managers’ assessments of employees’ affective commitment has been shown to be positively related to evaluations of those employees’ future potential and likelihood of promotion (Shore et al., 1995).

Recently, there has been increasingly vocal skepticism regarding women’s commitment to paid work (Belkin, 2003; Mero & Sellers, 2003; Wallis, 2004). Several factors seem to underlie this skepticism, including the direct conflict between social conceptions of the ideal worker and social conceptions of a good wife and mother; the incorrect but popular-media-driven perception that professional women are increasingly choosing to exit the labor force in order to meet family needs (Blau & Kahn, 2007; Boushey, 2008; Williams, Manvell, & Bornstein, 2006); and the fact that

individuals' commitment to their workplace tends to decrease when they are less demographically similar to their co-workers.

According to traditional social norms, mothers are expected to be the primary caretaker of children and thus are held to higher standards of involvement and commitment to parenting than men (Biernat & Kobrynowicz, 1997). In other words, the “good mother” is expected to always be available to her children, prioritizing their needs above all other endeavors (Hays, 1996). These expectations of the mother role are in direct conflict with idealized notions of the ideal worker, who is thought to be disembodied and unencumbered by the burden of anything other than work (Acker, 1990): in other words, always available to the employer and its needs. As a result of these social norms, regardless of the actual productivity and effort expended in their jobs, mothers are often perceived as being less-committed employees. In addition to the perception that mothers expend less effort at work than fathers, recent experimental research has shown that mothers are also assumed to be less competent than nonmothers (Correll, Benard, & Paik, 2007; Cuddy, Fiske, & Glick, 2004), and a survey study of potential future employers supported these findings by demonstrating that mothers were significantly less likely to be called back for an interview than nonmothers. In both studies, fathers were not similarly disadvantaged and, in some instances, were advantaged by their status as parents. Of course, not all women in the workforce are or will eventually become mothers. However, it has been suggested that because of the very close association between traditional stereotypes of women and those of mothers, even women who are not mothers may be associated with or suspected of becoming mothers in the future, and thus are tainted with the motherhood stereotype of being less committed and less competent (Correll et al., 2007; Ridgeway & Correll, 2004a).

A second dynamic contributing to the perception of women as less committed is persistent coverage in the popular press of the purported “opt-out revolution” (Belkin, 2003; Williams et al., 2006). According to these media reports, despite the greater educational and career opportunities they have today, women, challenged by the complexities of balancing work and family, are increasingly “opting out” of paid work and choosing to focus exclusively on managing their families. By some accounts, this “proves” that women are less committed; further, this interpretation has often been generalized to cast suspicion on all women, regardless of their individual desires and circumstances.

Despite the substantial media attention it has garnered, the opt-out phenomenon is, in reality, more of a myth than a revolution—one that is based largely on anecdotal evidence and raw data considered without regard to labor market trends (Blau & Kahn, 2007; Boushey, 2008). One recent study found that after considering factors such as broader changes in the labor supply, the rate at which mothers are dropping out of work is not increasing any faster than it is for childless women, childless men, and fathers (Boushey, 2008). Further, the author found that the penalty of having children on women’s labor force participation in general has become progressively smaller over the past two decades; and even among the narrow population of highly educated, professional women aged 33 to 40, there is no trend toward opting out. Consistent with this, another recent study found that between 1980 and 2000, women’s likelihood of working became less sensitive to their own wages and to those of their husbands, suggesting that women have become more committed to working, not less (Blau & Kahn, 2007).

Even if one considers women that *have* actually chosen to “opt out,” it is simplistic to conclude that their decisions are driven only by a lack of commitment to paid work. Behind these decisions is often a quite complex set of processes. While

men face similar challenges of balancing career and family, the gender system operates differently on men and women. First, as discussed above, women are likely to experience a greater level of conflict between work demands and family demands, whether they arise from children, other caretaking responsibilities such as for aging parents, or the simple existence of strong social norms about what women should be like. Second, for women, divestment of their career and work role is regarded by society as a tenable—perhaps preferable—option, while for men withdrawal from paid work is regarded as largely unacceptable and is likely to be met with substantial negative consequences. In other words, underlying the decision to opt out is a dynamic in which women are pulled toward familial roles by positive feedback and the social glorification of motherhood, and simultaneously pushed away from paid work by factors such as being derided for being ambitious (Fels, 2004), (realistically) lower expectations of being promoted (Cannings, 1988; Cannings & Montmarquette, 1991), and because, as the result of differential access to information about pay, lower expectations regarding compensation (Belliveau, 2005; Major & Konar, 1984; Major & Testa, 1989).

In fact, in many instances, the forces pushing women away from work are more significant than those pulling them toward familial responsibilities; for example, a longitudinal study of turnover among the managers of twenty Fortune 500 companies found that the primary reason more women than men left these firms was disappointment with the career opportunities open to them, not family demands (Stroh, Brett, & Reilly, 1996). In a related vein, a study investigating whether women and men have different levels of aspiration for advancement found that while women did attach less importance to promotion than men, this difference disappeared when controlling for the fact that women disproportionately held organizational positions that were unfavorable to promotion and were less likely than men to have been

promoted in the past (Cassirer & Reskin, 2000). Further, another study found that women were less likely than men to aspire to promotion into a senior management position as a result of perceptions that they had lower prospects for advancement and that they were less congruent with the male-typed personal characteristics stereotypic of senior managers (Litzky & Greenhaus, 2007). Interestingly, the authors found that the level of individuals' home involvement was not an explanation for women's lower aspirations. In summary, given the strong forces pulling women toward familial responsibilities and even stronger forces pushing them away from paid work, it is not terribly surprising that some women choose to opt out of paid work in favor of focusing on other, more promising and socially encouraged activities.

In contrast, men are told that their sense of worth should derive from their work or career-related accomplishments and are therefore pulled to remain at work and pushed away from home (Fels, 2004). Consistent with this are several studies showing bias against men who took parental leave upon the birth of a child. In one study, these men were seen as less committed to their organization and were less likely than women to receive recommendations for rewards (Allen & Russell, 1999), while in another study they were perceived as less likely to engage in organizational citizenship behaviors such as helping co-workers, being on time, or working overtime (Wayne & Cordeiro, 2003). In summary, despite the many factors contributing to the exit of some professional women from the workplace, this trend has often been exaggerated and simplistically attributed to women's lack of commitment, ambition, and desire for power (Belkin, 2003; Mero & Sellers, 2003; Wallis, 2004).

Although women's higher absolute levels of withdrawal from the job market as compared with men have contributed to a perception that women are less committed to their careers (Hewlett & Luce, 2005), several studies suggest that working women are frequently no less committed to their jobs than men (Cannings & Montmarquette,

1991; Hymnowitz & Schellhardt, 1986). Potentially helpful in explaining these inconsistencies is research showing that the gender composition of the workplace affects individuals' commitment, with women being more committed than men in predominantly female organizations (Hrebiniak & Alutto, 1972) and men more committed than women in male-dominated organizations (Aranya, Kushnir, & Valency, 1986). These findings are consistent with later research showing that individuals' demographic fit within their immediate work group affects organizational attachment as measured by number of absences, psychological commitment, and intent to stay with the organization (Jackson et al., 1991; Tsui, Egan, & O'Reilly, 1992). Given that many organizations are predominantly male and that the number of women further diminishes at higher levels of the organizational hierarchy, it seems plausible that as women advance in their organizations and become more and more demographically isolated, this isolation may contribute to a diminishment in their level of commitment.

Proposition 5. In hiring decisions, female candidates will be perceived as less committed to their work than male candidates.

Credibility. We extend to the hiring context Hovland et al.'s (1982) construal of credibility as the trust, perceived expertise, and liking of an individual, by specifically defining candidate credibility as the believability and legitimacy of an individual's credentials and future potential. Consequently, I suggest that credibility is both a function of perceptions of an individual's competence, congruence, and commitment, and a contributing factor to those perceptions. For example, an individual who is assessed to be highly competent, a strong fit, and clearly committed to career and organization is more likely to be seen as a credible and legitimate contender for corporate advancement than someone lacking in those qualities. Conversely, if an individual is seen as credible, perhaps because of the support of an

external sponsor, assessments of their competence, congruence, and commitment may benefit from a positive bias.

Credibility has been identified by many researchers both as crucial to the advancement of women and, at the same time, as a quality that women often are lacking (Burt, 1998; Carli, 2001; Hollander, 1992; Ridgeway, 2001; Valian, 1998; Yoder, 2001; Yoder, Schleicher, & McDonald, 1998). According to status characteristics theory, this credibility gap results from generalized beliefs about the lower competence and status of women (Ridgeway & Berger, 1986). Because low-status individuals lack credibility, when they attempt to assert authority over others—a necessary function of any high-level executive—instead of being viewed as competent, their behavior is seen as an illegitimate attempt to gain influence or power (Carli, 2001). Social role theory similarly predicts that women will be seen as illegitimate in leadership roles because behavior required of a leader is seen as inconsistent with the behavior prescribed for the female gender role (Eagly & Karau, 2002).

Several empirical studies have demonstrated women's credibility problem in asserting authority over others and assuming leadership positions. One study found that women were less persuasive when using assertive speech (Carli, 1990), while another study found that women are liked less when they behave competently and, as a result, are also less influential (Carli, Loeber, & Lafleur, 1995). With respect to leadership, meta-analyses by Eagly and colleagues found that female leaders were evaluated less favorably than equivalent male leaders, particularly when they used an autocratic leadership style (Eagly, Makhijani, & Klonsky, 1992); and that female leaders were rated as less effective than male leaders, particularly in male-dominated fields (Eagly, Karau, & Makhijani, 1995).

Sponsorship by a high-status third party is one important method of achieving credibility and legitimacy within an organization. Although sponsorship has been shown to be effective for both men and women (Brown & Geis, 1984), I argue that it is particularly vital to women because of their built-in credibility gap. As Valian argued, “Males tend to be perceived as the norm against which females are measured” (Valian, 1998: 111). Men, then, are in most contexts by definition credible. Because they are expected to be credible, the default for evaluators is to take men’s qualifications at face value or to even create exceptions for them, while women do not benefit from this “leniency bias” or “benefit of the doubt” (Brewer, 1996). As such, women are doubly disadvantaged, first through harsher evaluations of their qualifications and, second, by more lenient evaluations of men’s qualifications.

Several experimental studies support the view that external legitimation aids evaluations and effectiveness of female leaders more than male leaders (DeMatteo, Dobbins, Myers, & Fecteau, 1996; Hogue, Yoder, & Ludwig, 2002). In one study, low evaluations of females’ leadership traits, effectiveness, and whether to replace or retain the leader were significantly improved when the leader’s performance was externally legitimated by the experimenter (DeMatteo et al., 1996). In two other studies, Yoder and colleagues found that women leaders were effective in influencing their all-male groups only after being legitimated by a male experimenter (Yoder et al., 1998); and that when no reason was given for the appointment of a woman leader, subjects sought out additional justification for the appointment, while for a man’s appointment they did not, suggesting that women are more in need of sponsorship and legitimization than men (Hogue et al., 2002).

Additional research has shown that legitimacy may be derived from unequivocal demonstrations of performance ability (Pugh & Wahrman, 1983). Within the domain of hiring decisions the clearest evidence of ability to perform is provided

by success in a position similar to the one for which the candidate is being considered. Not surprisingly, research on the evaluation of faculty job candidates revealed that women candidates were evaluated less favorably than similarly accomplished men candidates for tenured positions when they did not already hold tenure at their current institution, but this difference disappeared when candidates had already been promoted to tenure (Steinpreis, Anders, & Ritzke, 1999). One might argue that possession of tenure (i.e., having been legitimated) served as an indicator of organizational sponsorship. In the absence of such legitimation, respected organizational members may need to vouch for candidates.

There is also some suggestive empirical support from a field context. First, in a study of the networks of high- and low-performing men and women managers, Ibarra (1997) found that high-performing women relied more heavily on strong ties (ties that are generally closer, more stable, and reciprocal, such as those with a sponsor or mentor) than did all men and non-high-performing women. To explain this finding, Ibarra suggested that for women, strong ties are more instrumentally effective than weak ties because they “help women to counteract the effect of bias, gender-typed expectations, and contested legitimacy” (Ibarra, 1997: 99). In another study, Burt (1998) found that women who built their social networks around a high-status organizational sponsor were promoted earlier than women who built their networks directly. In contrast, men were able to successfully rely on self-constructed networks. Like Ibarra, Burt concluded that the most plausible explanation for his finding was women’s lack of legitimacy within the focal organization of his study.

Proposition 6. In hiring decisions, at a given objective level of competence, congruence, and commitment, men will be deemed more credible than women.

Proposition 7. In hiring decisions, sponsorship or having previously occupied a comparable position will increase perceived candidate credibility more for female candidates than for male candidates.

Against this backdrop of subtle but pervasive bias in the evaluation of women's competence, congruence, commitment, and credibility, it is no great leap to suggest that decision makers considering for hire two candidates of equal objective caliber—one a woman and one a man—would conclude, based solely on the candidates' individual characteristics, that the woman is subjectively less qualified. And, because there is greater uncertainty about a less-qualified individual's ability to "get the job done," hiring this "less-qualified" woman is a riskier proposition for the organization and the decision maker(s) (Cox, 1967; Dowling & Staelin, 1994; Taylor, 1974).

Proposition 8. In hiring decisions, female candidates will be perceived as carrying higher risk than male candidates.

Proposition 9. In hiring decisions, female candidates will be less likely to be hired than male candidates.

Exogenous Risk—Considering Gender

After assessing a candidate's risk, the decision maker must return to his or her initial assessment of the exogenous risk associated with the position, considering the larger organizational context in which the hiring decision is embedded. As discussed above, the degree of perceived exogenous risk will likely be influenced by the nature and importance of the position to be filled and the nature of the organization, including its normative culture, its overall credibility and visibility, and the threat or opportunity perceived in the specific context in which hiring is being conducted. In attempting to identify the factors that limit women's ascent to the highest ranks, I am inherently

focusing on hiring decisions associated with very visible, critical organizational functions. In this context, women constitute a small minority of executives in most business contexts and thus will be considered nontraditional hires by most organizational gatekeepers. Therefore, the organizational norms around making nontraditional hires may be an important determinant of whether women will be disadvantaged in the hiring process or not.

In assessing the level of exogenous risk associated with filling an executive position, the decision maker might consider the views of other individuals to whom he or she is accountable—members of management, members of the board of directors, shareholders, employees, and even the media—all of whom, as members of society, are likely to hold gender beliefs about the way men and women are and should be. Collectively, some or all of these constituencies might wonder whether the women candidates are ever sufficiently competent and appropriate for such a senior position when so few other women have been in the past. Since making a nontraditional hire will be perceived as less risky when norms are tolerant of experimentation or, at the very least, lenient in punishing failure (Gittell, 2000; Thomke, 2001), I expect that women will be less disadvantaged in organizations with such norms. In other words, in these organizations, the exogenous risk associated with making a nontraditional executive woman hire will be perceived as lower. In contrast, in organizations with cultures that do not reward experimentation and that exhibit high levels of evaluative pressure, the exogenous risk associated with decisions to hire nontraditional candidates will be greater. Further, unless an organization explicitly disavows the gender stereotypes broadly held in our society, it is likely that any decision maker will assume that other members of the organization hold such beliefs and therefore may act in accordance with these stereotypes, even if the decision maker himself does not endorse such beliefs (Ridgeway & Correll, 2006). However, even when firms lack

cultural norms that encourage experimentation, organizational decision makers may be discouraged from perpetuating traditional practices as old ways become obsolete, new types of human capital are demanded, lawsuits are brought forth, regulatory pressures demand adherence to governmental standards, and internal pressure is received from vocal organizational constituents lobbying for candidates with particular characteristics (Paulin & Mellor, 1996).

The threat or opportunity perceived within the specific context in which executive hiring is being conducted may also be a significant factor in determining whether nontraditional hires are tolerated or even sought. For example, Ryan and Haslam (2007) argue that women and other nonelite or minority individuals are more likely to be considered for and to accept leadership positions in companies with declining performance and a higher risk of failure than in companies with stable or improving outlooks. One of the potential explanations they offer for this “glass cliff” phenomenon is that making a nontraditional hire is perceived as posing minimal risk for organizations that are already in trouble and thus prone to failure. Furthermore, women and underrepresented minorities may have more limited opportunities and be seen by organizations as more expendable than majority men. Therefore, since the likelihood of being offered a more favorable position may seem slim, women and minorities, as well as the organizations considering them, may deem the risk associated with their taking on a leadership position at a troubled company to be less than it would be for a majority male.

It Only Gets Worse . . .

Substantial evidence suggests that with respect to assessments of both candidate risk and exogenous risk, the many biases discussed above become magnified as women move up the career ladder and attempt to enter the executive

suite. First, as positions become broader in nature and thus more poorly defined, hiring and promotion decisions necessarily become more subjective, and greater inference is required to predict future performance (Nieva & Gutek, 1980). In these instances, women tend to be disadvantaged, as in the absence of clear indicators individuals fall back on tried-and-true stereotypes. Second, as women progress through the management ranks, the incongruence between their gender and the stereotypical requirements of the positions for which they are being considered tends to increase (Eagly & Karau, 2002; Greenhaus & Parasuraman, 1993; Lyness & Thompson, 1997). Third, as women advance, they become more and more of a statistical rarity. Since multiple studies have found that women are evaluated less favorably than men when they are significantly in the minority, the simple fact of numbers may work to exacerbate bias against women as they achieve higher degrees of success (Heilman, 1980; Sackett et al., 1991; Valian, 1998). Fourth, the exogenous risk associated with a hiring decision should also increase as the importance of the position increases. I would expect this heightened exogenous risk to further exacerbate the perception of candidate risk associated with women versus men. Finally, it has been demonstrated that individuals are more likely to rely on biased gender-based stereotypes when they are engaged in zero-sum decisions, such as when they are hiring for a sole position as opposed to one of several positions (i.e., a CEO versus one of several middle-manager positions) (Biernat, 2003). This is due to the fact that when a decision maker is forced to choose a single individual, he or she is implicitly rejecting other candidates; in this instance, the decision maker is likely to compare qualifications across groups, which triggers the use of an absolute standard and the tendency to assimilate to widely held stereotypes.

Proposition 10. In hiring decisions, as the seniority of the executive position increases, the disadvantages of female versus male candidates with respect to both assessments of candidate and exogenous risk will increase.

Effects Across a Career

Different Opportunities

Hiring and promotion decisions made in the past influence the opportunities available for future jobs and promotions; in order to be considered for a position as a managing director, an individual must first have served and proved successful as a vice president. Over a lifetime, this process can compound to create very different opportunity structures for men and women. Other factors also contribute to this disparity, including differences in the development and composition of men's and women's social networks (Cabrera & Thomas-Hunt, 2007; Cannings & Montmarquette, 1991; Ibarra, 1993), social prescriptions that encourage men to negotiate on their own behalf and actively promote themselves and that simultaneously discourage women from doing so (Babcock & Laschever, 2003), the fact that women are more likely than men to temporarily step off the career path in order to meet family needs (Gallese, 1985; Powell & Mainiero, 1992; Strober, 1982), and self-selection processes in which women either initially choose to pursue different careers than men (Correll, 2004) or later choose to opt out of further career advancement or paid labor altogether (Hewlett & Luce, 2005). In addition, the many biases at work during the hiring-decision process described above should also work to disadvantage women as they compete to be considered for a position in the first place; in other words, gatekeepers such as headhunters and individuals in referral networks will likely share the same biases that are exhibited by decision makers at actual employers.

Recap: The Accumulation of Small Differences

Having taken a closer look at how each of the processes underlying our model operates differently for men and women as they attempt to access the executive suite, we can now take a broader perspective to understand how what appear to be small biases and differences can accumulate to create large inequities in the representation of women in leadership positions across U.S. society. What may begin as a similar opportunity structure for men and women leads into a decision process that is biased against women, both in how individual candidate suitability is assessed and with respect to the risks ascribed to hiring a woman. As a result of this bias, a slight difference in the opportunity structure of men and women is created, leading to a small difference in who is considered for the next opportunity. When that next hiring or promotion decision is made, perhaps again reflecting small biases, we are now well on our way to large, systemic inequities that perhaps seem to arise out of nowhere. Insidiously, as women gradually sense that their opportunities are narrowing, some may elect to opt out entirely, while others rein in their ambitions and aspirations—further limiting the pool of women who are qualified for upward advancement. And so it goes. Until finally, the flow of women toward the executive suite, hampered by a complex, implicit, interactional system of gender beliefs, is gradually slowed to a trickle.

CHAPTER 3:
EFFECTS OF CANDIDATE QUALITY AND GENDER ON THE
RELATIONSHIPS BETWEEN COMPETENCE, CONGRUENCE,
COMMITMENT, CREDIBILITY, CANDIDATE RISK AND HIRING: STUDY 1

The goals for Study 1 were threefold. First, I sought to begin testing the general risk model of executive selection proposed in Chapter 2, in particular, Proposition 2, regarding the relationship between competence, congruence, commitment, and credibility (the “Four Cs”), on the one hand, and candidate risk, on the other, and Proposition 3, regarding the relationship between candidate risk and decisions to hire. According to these propositions, lower-quality job candidates will be perceived as carrying greater candidate risk and therefore will be less likely to be hired than higher-quality candidates. Specifically, I tested the following hypotheses derived from Propositions 2 and 3:

Hypothesis 1: Moderate-quality candidates will be perceived as having higher candidate risk than high-quality candidates.

Hypothesis 2: Moderate-quality candidates will be less likely to be hired than high-quality candidates.

Hypothesis 3: The relationship between candidate quality and likelihood of hiring will be mediated by assessments of perceived candidate risk.

Second, I sought to test whether, as suggested in Propositions 5, 6, 8 and 9, gender influences assessments of candidate risk, such that women are perceived as less competent, congruent, committed, and credible than men and, as a result, are seen as having higher candidate risk and therefore, are less likely to be hired than men. Third, the risk model of executive selection does not specify whether the absolute qualifications of the male and female candidates being considered for an executive

position would affect the way in which gender might influence evaluations and hiring decisions. However, previous research has demonstrated that gender bias increases when evaluators are presented with ambiguous or insufficient information about the quality of performance whereas gender bias decreases when evaluators are asked to evaluate women who are demonstrably successful (Heilman, 1995, 2001; Heilman et al., 2004; Nieva & Gutek, 1980; Tosi & Einbender, 1985). These findings suggest that while women of ambiguous, average or low qualifications may well be subject to biased assessments and therefore less likely to be hired for a job, women with unambiguously high qualifications may not be. Therefore, in Study 1, I sought to extend the model to investigate this question of how candidate quality interacts with gender to influence assessments of the Four Cs and candidate risk and, in turn, decisions to hire. The specific hypotheses I sought to test with respect to gender and its interaction with candidate quality are as follows:

Hypothesis 4: The effect of candidate gender on perceptions of competence, congruence, commitment, and credibility will be greater for moderate-quality candidates than for high-quality candidates such that moderate-quality female candidates will be perceived as less competent, less congruent, less committed, and less credible than moderate-quality male candidates.

Hypothesis 5: The effect of candidate gender on perceived candidate risk will be greater for moderate-quality candidates than for high-quality candidates such that perceived candidate risk will be higher for moderate-quality female candidates than for moderate-quality male candidates.

Hypothesis 6: The effect of candidate gender on the likelihood of hiring will be greater for moderate-quality candidates than for high-quality candidates such that moderate-quality female candidates will be less likely to be hired than moderate-quality male candidates.

Hypothesis 7: For moderate-quality candidates, the relationship between candidate gender and perceived candidate risk will be mediated by assessments of competence, congruence, commitment, and credibility.

Hypothesis 8: For moderate-quality candidates, the relationship between candidate gender and likelihood of hiring will be mediated by assessments of perceived candidate risk.

Method

Participants

Participants for this study were 151 students from a large university in the eastern United States. For their participation, participants were entered into a lottery for \$200 in cash and either paid \$5 in cash or given extra credit in a course unaffiliated with the researcher. The participants were composed of 76 males and 75 females, were predominantly Caucasian (71.5%), and were between 18 and 61 years old ($M=21.0$ years, $SD = 5.21$).

Design and Procedure

The study used a 2 (candidate quality: high or moderate) \times 2 (candidate gender: male or female) between-subjects experimental design in which participants were randomly assigned to one of four conditions. Participants were told that the study was aimed at understanding the factors that individuals consider when hiring executives. They were told that they would be reading an actual job posting for a company seeking to hire a senior executive, as well as a description of an actual candidate who applied for the position. Further, they were told that some of the participants in the study would read a description of the candidate who was actually hired for the position and has proved to be excellent in the position. Participants were

asked to imagine that they were the individuals responsible for hiring the best candidate for the position. They were then provided with a description of a company seeking to hire an executive vice president for sales and marketing, a description of the position and qualities required for the job, and a several-paragraph description of a candidate for the position. The company and job description were identical across all conditions. Depending on their randomly assigned condition, participants read either a description of a highly or moderately qualified male candidate or a highly or moderately qualified female candidate. A copy of the stimulus materials for Study 1 is attached as Appendix A. After reading the job and company description and the candidate description, participants were asked to answer a series of evaluative questions about the candidate, to answer several questions about the gender composition and task-typing of the pharmaceutical industry, and to then provide some demographic information about themselves.

Candidate Quality and Candidate Gender

I manipulated candidate quality by changing the description of the candidate to vary the candidate's level of competence, congruence, commitment, and credibility. Candidate gender was manipulated by changing the candidate's first name (Jack or Jane). I chose these names because research has previously established that they are matched on attractiveness and competence (Kasof, 1993).

Selection of Industry Context

Given that most industries continue to be male-dominated at the executive level (Helfat et al., 2006), with only a few industries more recently becoming gender-neutral (U.S. Equal Employment Opportunity Commission, 2007), and in order to enhance the generalizability of the current research, I wanted the industry context for

Study 1 to be moderately male-typed at the executive level. Gender-typing of an industry is generally based on two factors: the gender of the individuals who typically occupy the industry, and the gender that is typically associated with the tasks normally carried out in that industry (Davison & Burke, 2000; Lyness & Heilman, 2006). Based on these two factors, I chose the pharmaceutical industry. In 2006, men and women made up 62.8% and 37.2%, respectively, of officials and managers, and 51% and 49%, respectively, of all employees. These data are relatively consistent with the perceptions of the study participants, who estimated that executives (a somewhat smaller and more senior group than “officials and managers”) in the pharmaceutical industry are composed of 72.9% men and 27.1% women and that all employees are composed of 51.0% men and 49.0% women. Further, to explicitly confirm that the pharmaceutical industry is perceived as moderately male-typed with respect to task-typing, I asked participants to respond to the following question: “Ranging from entirely female-typed (1) to entirely male-typed (5), how would you characterize the gender-typing of the pharmaceutical industry?” A rating equal to the scale midpoint (3) would indicate an equal number of male- and female-typed tasks. Participants reported that the pharmaceutical industry had significantly more male-typed tasks than female-typed tasks ($M = 3.51$, $SD = .67$, $t(149) = 9.34$, $p < .001$).

Dependent Measures

In order to develop scales to measure each of the Four Cs, I first looked to existing research literature to identify previously used scales with demonstrated construct validity. For competence, I began with the scale used by Correll, Benard, and Paik (2007); for congruence, I looked to Kristof-Brown’s (2000) two scales measuring perceived person-organization fit and perceived person-job fit, and for commitment, I drew upon Allen, Russell, and Rush’s (1994) measure of perceived

commitment. I was unable to identify an appropriate scale for credibility, so I created a six-item scale of my own. In the list of evaluative questions I asked participants to answer, I included the items I developed for credibility, as well as each item from the four identified scales for competence, commitment, and congruence, in some cases slightly modified to fit the study context. I also included several other items I believed to have high content validity. In order to construct the specific scales used in Study 1, I first performed exploratory factor analysis for the items related to competence, congruence, and commitment to identify which items most cleanly loaded onto these factors. The selected items and their factor loadings are shown in Table 3.1.

I intentionally did not include the items from my credibility scale in this initial analysis because the construct for credibility includes each of the other Cs plus the additional concepts of trust and liking. Given this, I expected the individual items for credibility to load onto the factors for each of the other three Cs as well as potentially load onto a separate factor. As expected and shown in Table 3.2, when I conducted factor analysis including the items from the credibility scale with the selected items for each of competence, congruence, and commitment, certain items in the credibility scale loaded onto the factors for competence (respected, credible, expert) and congruence (how confident are you in their skills and abilities) as well as onto a separate factor (trustworthy and likable).

The correlations between each of the scales for the Four Cs are provided in Table 3.3. Not surprisingly, the scales are highly correlated. Despite this, given the factor analysis performed, I am comfortable that each of the scales is measuring a distinct construct.

Table 3.1. Summary of Exploratory Factor Analysis Results for Competence, Congruence and Commitment ($N = 151$)

Item	Factor Loadings		
	Competence	Congruence	Commitment
Capable	.69	.44	.07
Efficient	.77	.18	.17
Skilled	.70	.40	.06
Intelligent	.53	.37	.05
Independent	.63	.25	.00
Organized	.64	.28	.05
Competent	.66	.40	.10
Fits with organization	.33	.73	.32
Similar to other executives	.24	.83	.12
Other executives will think fits organization	.37	.78	.16
Compatible with organization	.45	.67	.25
Fits demands of job	.42	.77	.05
Other executives think candidate is qualified	.34	.80	.06
Qualified for job	.40	.73	.22
Loyal to organization	-.11	.17	.79
Cares about fate of organization	.13	.18	.82
It would take a lot to cause him/her to leave organization	.38	.09	.70
Feels a strong sense of belonging to organizations	.11	.21	.78
Would be happy to spend rest of career with organization	-.01	-.03	.78
Eigenvalues	4.23	4.96	3.34
% of variance	22.27	26.09	17.56

Note: Extraction method is Principal Components Analysis. Rotation method is Varimax with Kaiser Normalization. Factor loadings over .50 appear in bold.

Table 3.2. Summary of Exploratory Factor Analysis Results for Competence, Congruence, Commitment and Credibility ($N = 151$)

Item	Factor Loadings			
	Competence	Congruence	Commitment	Trust/ Liking
Capable	.60	.54	.05	.05
Efficient	.70	.28	.17	-.10
Skilled	.58	.53	.00	.06
Intelligent	.43	.49	-.06	.30
Independent	.63	.28	.04	-.22
Organized	.63	.30	.06	-.08
Competent	.62	.47	.02	.16
Fits with organization	.29	.73	.32	-.04
Similar to other executives	.14	.85	.10	.01
Other executives will think fits organization	.32	.78	.16	-.03
Compatible with organization	.39	.70	.25	.00
Fits demands of job	.33	.81	.06	-.13
Other executives think candidate is qualified	.28	.81	.05	.00
Qualified for job	.36	.76	.21	-.06
Loyal to organization	-.11	.19	.75	.26
Cares about fate of organization	.12	.22	.78	.21
It would take a lot to cause him/her to leave organization	.38	.16	.69	.00
Feels a strong sense of belonging to organizations	.11	.24	.75	.16
Would be happy to spend rest of career with organization	.04	-.06	.82	.01
Trustworthy	.17	-.01	.22	.82
Likeable	-.13	-.2	.28	.72
Respected	.66	.18	.25	.27
Credible	.63	.35	.11	.41
Expert	.52	.46	.11	.22
Confident in skills/ abilities	.34	.70	.22	.05
Eigenvalues	4.68	6.59	3.43	1.84
% of variance	18.70	26.35	13.70	7.34

Note: Extraction method is Principal Components Analysis. Rotation method is Varimax with Kaiser Normalization. Factor loadings over .50 appear in bold.

Table 3.3. Correlations Among Scales for Four Cs

Scale	1	2	3	4
1. Competence	.87			
2. Congruence	.78	.94		
3. Commitment	.31	.41	.87	
4. Credibility	.68	.62	.53	.72

Note: Scale reliabilities are on the diagonal in boldface. All correlations are significant at $p < .01$.

A description of each of the dependent measures follows.

Competence. This measure was made up of seven items, each of which was measured on a five-point Likert-type scale. Participants were asked to indicate the degree to which the job candidate was each of the following: capable, efficient, skilled, intelligent, independent, organized, and competent. Cronbach's alpha for the measure was .87.

Congruence. For this measure, I used the exact scale developed by Kristof-Brown (2000) to measure both perceived person-organization fit and perceived person-job fit. The scale included seven items, each measured on a five-point Likert-type scale. Cronbach's alpha for the measure was .94.

Commitment. This measure was composed of five items drawn from Allen, Russell, and Rush's (1994) measure of perceived commitment. Each item was measured on a five-point Likert-type scale and included statements such as "The candidate appears loyal to the organization" and "The candidate feels a strong sense of belonging to the organization." Cronbach's alpha for the measure was .87.

Credibility. This measure was made up of six items, each of which was measured on a five-point Likert-type scale. Participants were asked to indicate the degree to which the job candidate was each of the following: credible, trustworthy, respected, an expert, and likeable. They were also asked to indicate their degree of

confidence in the candidate's skills and abilities. Cronbach's alpha for the measure was .72.

Perceived Candidate Risk. This scale included five items, each measured on a five-point Likert-type scale. They included the following questions: 1) Indicate the risk category (ranging from no risk to extremely risky) that best expresses the amount of risk you perceive in hiring this candidate, 2) How confident are you that this candidate will be successful in the job? (reverse scored), 3) How confident are you that this candidate is the best person for the job? (reverse scored), 4) To what degree would you be willing to stake your reputation on this candidate succeeding? (reverse scored), and 5) How worried are you that this candidate will be unsuccessful (fail) in the position? Cronbach's alpha for the measure was .88.

Salary. This was a single-item measure in which participants were told that the typical salary for this position falls within a range of \$250,000 to \$400,000 and were asked how much they would offer each candidate if he or she was selected for the position.

Behavioral Measure of Perceived Candidate Risk. In order to attain a behavioral measure of participants' likelihood of hiring the job candidate they evaluated, as part of the compensation for participating in the study, participants were given 10 lottery tickets, each of which represented 1 entry into a lottery drawing for \$200. They were then given the opportunity to bet between 0 and 10 of those tickets on whether the candidate they evaluated was actually hired as executive vice president for sales and marketing of the company. They were told that if they were correct in their bet, the number of tickets bet would be doubled, thereby doubling their chance to win the \$200 prize. If they lost the bet, they would lose the number of tickets wagered. I then measured the number of tickets bet by participants randomly assigned to each

condition. (In reality, because the materials were fictional, all participants received 1 entry into the lottery.)

Likelihood of Hiring. This was a single-item measure in which I asked participants to respond on a five-point scale to the question “How likely would you be to hire the candidate if you knew that you would be evaluated based on his or her success?”

A list of the items in each measure is included as Appendix B.

Results

Manipulation Checks

In order to confirm that I was successful in manipulating candidate quality on each of the four dimensions—competence, congruence, commitment and credibility—I performed simple independent sample *t*-tests to compare the means for each of the four scales across quality conditions. As intended, the high-quality candidate was evaluated as significantly more competent ($M(\text{high}) = 4.25$, $M(\text{moderate}) = 3.64$, $t(149) = 7.52$, $p < .001$), congruent ($M(\text{high}) = 4.06$, $M(\text{moderate}) = 2.90$, $t(149) = 10.45$, $p < .001$), committed ($M(\text{high}) = 3.17$, $M(\text{moderate}) = 2.88$, $t(149) = 2.50$, $p < .05$), and credible ($M(\text{high}) = 3.79$, $M(\text{moderate}) = 3.58$, $t(149) = 2.64$, $p < .01$) than the moderate-quality candidate. I also performed effects tests to determine whether participants actually evaluated the high-quality candidate as high quality and the moderate-quality candidate as moderate quality as opposed to low quality. Across all Four Cs, results were affirmative. Means for the high-quality candidate were significantly higher than the scale midpoint for each of competence ($M = 4.25$, $t(77) = 23.94$, $p < .001$), congruence ($M = 4.07$, $t(77) = 16.24$, $p < .001$), commitment ($M = 3.17$, $t(77) = 2.36$, $p < .05$), and credibility ($M = 3.79$, $t(77) = 14.63$, $p < .001$), while means for the moderate quality candidate were significantly above the scale midpoint

(but still significantly lower than those for the high-quality candidate) for competence ($M = 3.64$, $t(72) = 10.43$, $p < .001$) and credibility ($M = 3.58$, $t(72) = 10.17$, $p < .001$) and did not differ significantly from the scale midpoint for congruence ($M = 2.90$, $t(72) = -1.08$, ns) and commitment ($M = 2.88$, $t(72) = -1.29$, ns).

Quality Hypotheses

In order to test Hypotheses 1 and 2, I performed simple independent sample t -tests to compare the means for perceived candidate risk, the number of tickets bet (my behavioral measure of perceived candidate risk), salary, and likelihood of hiring across the two quality conditions. Both hypotheses were supported. As expected, perceived candidate risk was significantly higher for moderate-quality candidates than for high-quality candidates ($M(\text{high}) = 3.04$, $M(\text{moderate}) = 3.95$, $t(149) = -7.04$, $p < .001$), and participants bet significantly fewer lottery tickets on the moderate-quality candidates than on the high-quality candidates ($M(\text{high}) = 5.26$, $M(\text{moderate}) = 2.63$, $t(149) = 5.62$, $p < .001$). Further, participants were willing to pay a significantly higher salary to the high-quality candidates than to the moderate-quality candidates ($M(\text{high}) = \$311,054$, $M(\text{moderate}) = \$284,867$, $t(147) = 4.30$, $p < .001$) and were significantly more likely to hire the high-quality candidates than the moderate-quality candidates ($M(\text{high}) = 3.24$, $M(\text{moderate}) = 2.37$, $t(149) = 6.10$, $p < .001$). These results are shown in Table 3.4 and Figures 3.1 and 3.2.

Table 3.4. Effect of Candidate Quality on Assessments of Perceived Candidate Risk, Number of Lottery Tickets Wagered, Salary, and Likelihood of Hiring

Dependent Variable	Mean (SD)	<i>t</i>	<i>p</i>
Perceived Candidate Risk			
High Quality Candidate (N = 78)	3.04 (0.72)		
Moderate Quality Candidate (N = 73)	3.95 (0.86)		
Hypothesis: High Quality < Moderate Quality		(7.04)	.00
Number of Lottery Tickets Wagered			
High Quality Candidate (N = 78)	5.26 (2.74)		
Moderate Quality Candidate (N = 73)	2.63 (3.00)		
Hypothesis: High Quality > Moderate Quality		5.62	.00
Salary			
High Quality Candidate (N = 76)	\$311k (32.5k)		
Moderate Quality Candidate (N = 73)	\$285k (41.5k)		
Hypothesis: High Quality > Moderate Quality		4.30	.00
Likelihood of Hiring			
High Quality Candidate (N = 78)	3.24 (.83)		
Moderate Quality Candidate (N = 73)	2.37 (.94)		
Hypothesis: High Quality > Moderate Quality		6.10	.00

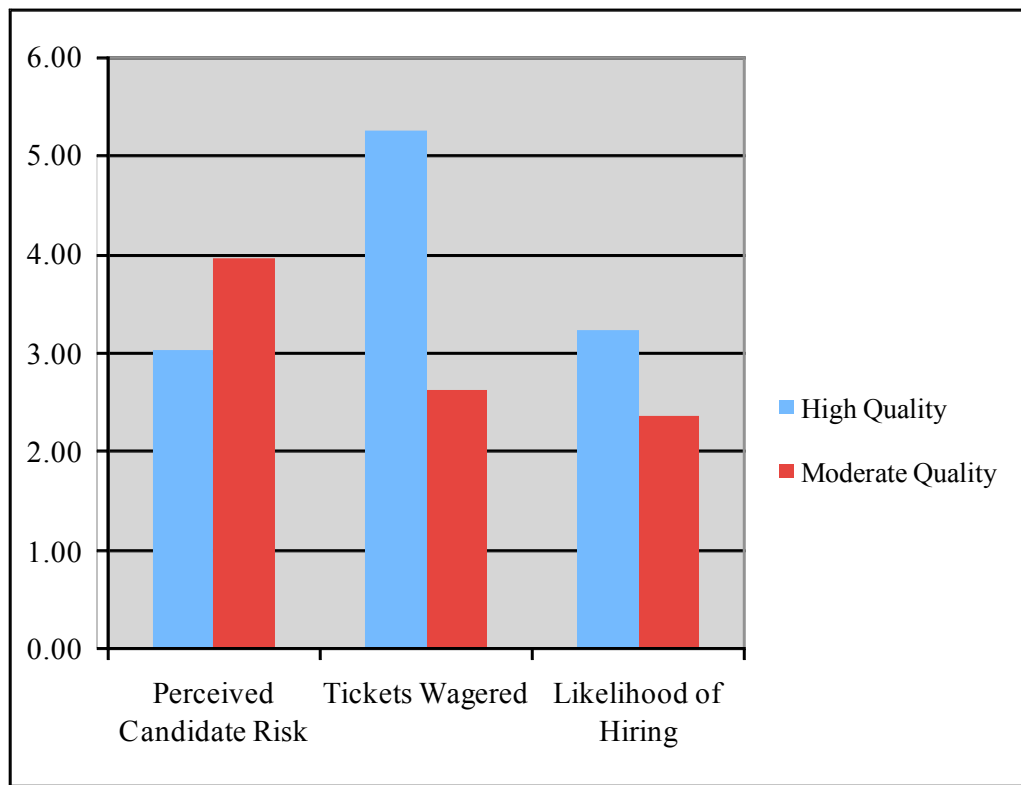


Figure 3.1. Mean Assessments of High- vs. Moderate-Quality Candidates on Perceived Candidate Risk, Tickets Wagered, and Likelihood of Hiring



Figure 3.2. Mean Salary Paid to High- vs. Moderate-Quality Candidates

To demonstrate the mediation predicted in Hypothesis 3, four conditions had to be satisfied: 1) the independent variable (candidate quality) had to be significantly related to the dependent variable (likelihood of hiring), 2) the independent variable had to be significantly related to the mediator (perceived candidate risk), 3) the mediator had to be significantly related to the dependent variable, and 4) the independent and dependent variable relationship had to be significantly reduced in the presence of the mediator (Kenny, Kashy, & Bolger, 1998). Analyses of variance revealed a significant main effect of candidate quality on both likelihood of hiring (the dependent variable), $F(1,149) = 37.17, p < .001$, and perceived risk (the mediator), $F(1,149) = 49.62, p < .001$, thus satisfying conditions 1 and 2. Regression analysis revealed a significant relationship between perceived candidate risk and likelihood of

hiring, $\beta=-0.725$, $t = -11.18$, $p < .001$, satisfying the third condition for mediation. Finally, when I included the independent variable and the mediator in the model, I found that the previously observed main effect of candidate quality on likelihood of hiring became less significant, $\beta=-0.285$, $t = -2.11$, $p = .04$. A Sobel test ($Z = 5.97$, $p < .001$) confirmed that the reduction in the main effect was significant when including both the independent variable and the mediator in the model. Therefore, the fourth condition was satisfied, providing support for Hypothesis 3. The results of the mediation analysis are reported in Table 3.5.

Table 3.5. Regression Analysis Testing for the Mediating Effect of Perceived Candidate Risk on the Relationship Between Quality and Likelihood of Hiring

Dependent Variable	<i>B</i>	SE <i>B</i>	<i>t</i>	<i>p</i>
Likelihood of Hiring				
Perceived Candidate Risk	(0.65)	.07	(8.74)	.00
Candidate Quality	(0.29)	.14	(2.11)	.04
Sobel test				
Input		Test statistic	<i>p</i> -value	
<i>a</i> = regression coefficient for the association between IV and mediator	0.911	(5.97)	.00	
<i>s</i> _a = standard error of <i>a</i>	0.129			
<i>b</i> = coefficient for the association between mediator and DV	(0.725)			
<i>s</i> _b = standard error of <i>b</i>	0.063			

Based on these analyses, I can conclude that perceived candidate risk partially mediated the effect of candidate quality on likelihood of hiring the candidate.

Gender Hypotheses

Each of Hypotheses 4, 5, and 6 implied a significant interaction between gender and quality, so for each hypothesis, I first ran two-way ANOVA analyses with candidate quality and candidate gender as factors and then conducted simple independent sample *t*-tests comparing the relevant means for each measure within each gender condition. To test Hypotheses 7 and 8, I followed the procedures outlined by Kenny, Kashy and Bolger (1998) for establishing mediation. I also ran all of the ANOVA analyses including participant gender as a control; because it had no effect on any of the results, participant gender was dropped from the analyses reported herein. Tables 3.6 and 3.7 provide a summary of the ANOVA analyses, Tables 3.8 and 3.9 report the results of the simple effects tests for each of the dependent variables, and Tables 3.10, 3.11, and 3.12 report the mediation analyses testing Hypotheses 7 and 8.

Hypothesis 4 was partially supported. This hypothesis proposed that the effect of gender on perceptions of competence, congruence, commitment, and credibility will be greater for moderate-quality candidates than for high-quality candidates such that moderate-quality female candidates will be perceived as less competent, less congruent, less committed, and less credible than moderate-quality male candidates. The two-way ANOVAs showed significant interaction effects between gender and quality for congruence $F(1,147) = 5.86, p < .05$, and credibility $F(1,147) = 4.40, p < .05$. With respect to competence, the interaction was only marginally significant $F(1,147) = 3.57, p = .06$. The interaction effects were nonsignificant for commitment $F(1,147) = 2.00, p = .16, ns$; interestingly, however, results showed a main effect for gender on commitment ($M(\text{male}) = 3.16, M(\text{female}) = 2.91, F(1,147) = 4.42, p < .05$). Irrespective of the quality of the candidate, female candidates were perceived as less committed to the organization and job than male candidates.

Table 3.6. Analysis of Variance for Effects of Candidate Gender and Candidate Quality on Assessments of Competence, Congruence, Commitment, and Credibility

Source	df	F	<i>P</i>
Competence			
Candidate Quality	1	57.57	.00
Candidate Gender	1	1.05	.31
Candidate Gender X Quality	1	3.57	.06
Error	147	(.24)	
Congruence			
Candidate Quality	1	110.25	.00
Candidate Gender	1	1.19	.28
Candidate Gender X Quality	1	5.86	.02
Error	147	(.46)	
Commitment			
Candidate Quality	1	5.78	.02
Candidate Gender	1	4.42	.04
Candidate Gender X Quality	1	2.00	.16
Error	147	(.49)	
Credibility			
Candidate Quality	1	6.60	.01
Candidate Gender	1	0.99	.32
Candidate Gender X Quality	1	4.40	.04
Error	147	(.23)	

Note: Values enclosed in parentheses represent mean square errors.

Table 3.7. Analysis of Variance for Effects of Candidate Gender and Candidate Quality on Assessments of Perceived Candidate Risk, Number of Lottery Tickets Wagered, Salary, and Likelihood of Hiring

Source	df	F	P
Perceived Candidate Risk			
Candidate Quality	1	50.09	.00
Candidate Gender	1	0.54	.47
Candidate Gender X Quality	1	7.41	.01
Error	147	(.61)	
Number of Lottery Tickets Wagered			
Candidate Quality	1	31.13	.00
Candidate Gender	1	0.91	.34
Candidate Gender X Quality	1	4.36	.04
Error	147	(8.07)	
Salary			
Candidate Quality	1	17.64	.00
Candidate Gender	1	.50	.48
Candidate Gender X Quality	1	.000	.98
Error	144	(140.0k)	
Likelihood of Hiring			
Candidate Quality	1	36.64	.00
Candidate Gender	1	1.74	.19
Candidate Gender X Quality	1	3.80	.05
Error	147	(.76)	

Note: Values enclosed in parentheses represent mean square errors.

The simple effects tests for Hypothesis 4 further clarified the dynamics underlying the interactions. Specifically, as shown in Figure 3.3, moderate-quality female candidates were seen as less congruent ($M(\text{male}) = 3.11$, $M(\text{female}) = 2.72$, $t(71) = 2.16$, $p < .05$), less committed ($M(\text{male}) = 3.10$, $M(\text{female}) = 2.70$, $t(71) = 2.28$, $p < .05$), and less credible ($M(\text{male}) = 3.71$, $M(\text{female}) = 3.47$, $t(71) = 2.15$, $p < .05$) than moderate-quality male candidates, but were not perceived as significantly different with respect to competence ($M(\text{male}) = 3.68$, $M(\text{female}) = 3.61$, $t(71) = .554$, ns). Interestingly, for high-quality candidates, the pattern was different, with

participants assessing female candidates as more competent ($M(\text{male}) = 4.14$, $M(\text{female}) = 4.37$, $t(76) = -2.29$, $p < .05$) than male candidates but not significantly different from male candidates with respect to congruence ($M(\text{male}) = 3.99$, $M(\text{female}) = 4.14$, $t(76) = -1.11$, ns), commitment ($M(\text{male}) = 3.21$, $M(\text{female}) = 3.13$, $t(76) = .533$, ns), or credibility ($M(\text{male}) = 3.75$, $M(\text{female}) = 3.83$, $t(76) = -.793$, ns).

Hypothesis 5, which proposed that the effect of gender on perceived candidate risk will be greater for moderate-quality candidates than for high-quality candidates such that moderate-quality female candidates will be perceived as higher risk than moderate-quality male candidates, and Hypothesis 6, which proposed that the effect of gender on likelihood of hiring will be greater for moderate-quality candidates than for high-quality candidates such that moderate-quality female candidates will be less likely to be hired than moderate-quality male candidates, were both supported. The two-way ANOVAs showed significant interaction effects between gender and quality for perceived candidate risk $F(1,147) = 7.41$, $p < .01$, for the number of tickets wagered $F(1,147) = 4.36$, $p < .05$, and for likelihood of hiring $F(1,147) = 3.80$, $p = .05$, but not for salary $F(1,144) = .00$, ns . The simple effects tests showed that moderate-quality female candidates were perceived as higher risk (using the measure perceived candidate risk: ($M(\text{male}) = 3.72$, $M(\text{female}) = 4.16$, $t(71) = -2.22$, $p = .03$); using the measure of number of tickets bet: ($M(\text{male}) = 3.38$, $M(\text{female}) = 1.97$, $t(71) = 2.04$, $p = .05$)), and were less likely to be hired ($M(\text{male}) = 2.62$, $M(\text{female}) = 2.15$, $t(71) = 2.17$, $p < .05$), than moderate-quality male candidates. These results are shown graphically in Figure 3.4. For high-quality candidates, perceived candidate risk ($M(\text{male}) = 3.16$, $M(\text{female}) = 2.91$, $t(76) = 1.56$, ns), the number of tickets bet ($M(\text{male}) = 5.00$, $M(\text{female}) = 5.33$, $t(76) = -.846$, ns) and likelihood of hiring ($M(\text{male}) = 3.20$, $M(\text{female}) = 3.29$, $t(76) = -.48$, ns), did not differ significantly for male and female candidates.

Table 3.8. Effect of Candidate Gender on Assessments of Competence, Congruence, Commitment, and Credibility for Moderate-Quality Candidates

Dependent Variable	Mean (SD)	<i>t</i>	<i>p</i>
Competence			
Male Candidate (N = 34)	3.68 (.60)		
Female Candidate (N = 39)	3.61 (.46)		
Hypothesis: Male Candidate > Female Candidate		.55	.58
Congruence			
Male Candidate (N = 34)	3.11 (.83)		
Female Candidate (N = 39)	2.72 (.70)		
Hypothesis: Male Candidate > Female Candidate		2.16	.03
Commitment			
Male Candidate (N = 34)	3.10 (.72)		
Female Candidate (N = 39)	2.70 (.77)		
Hypothesis: Male Candidate > Female Candidate		2.28	.03
Credibility			
Male Candidate (N = 34)	3.71 (.51)		
Female Candidate (N = 39)	3.47 (.45)		
Hypothesis: Male Candidate > Female Candidate		2.15	.04

Table 3.9. Effect of Candidate Gender on Assessments of Perceived Candidate Risk, Number of Lottery Tickets Wagered, and Likelihood of Hiring Moderate-Quality Candidates

Dependent Variable	Mean (SD)	<i>t</i>	<i>p</i>
Perceived Candidate Risk			
Male Candidate (N = 34)	3.72 (.94)		
Female Candidate (N = 39)	4.16 (.74)		
Hypothesis: Male Candidate < Female Candidate		(2.22)	.03
Number of Lottery Tickets Wagered			
Male Candidate (N = 34)	3.38 (3.61)		
Female Candidate (N = 39)	1.97 (2.19)		
Hypothesis: Male Candidate > Female Candidate		2.04	.05
Likelihood of Hiring			
Male Candidate (N = 34)	2.62 (1.01)		
Female Candidate (N = 39)	2.15 (.81)		
Hypothesis: Male Candidate > Female Candidate		2.17	.03

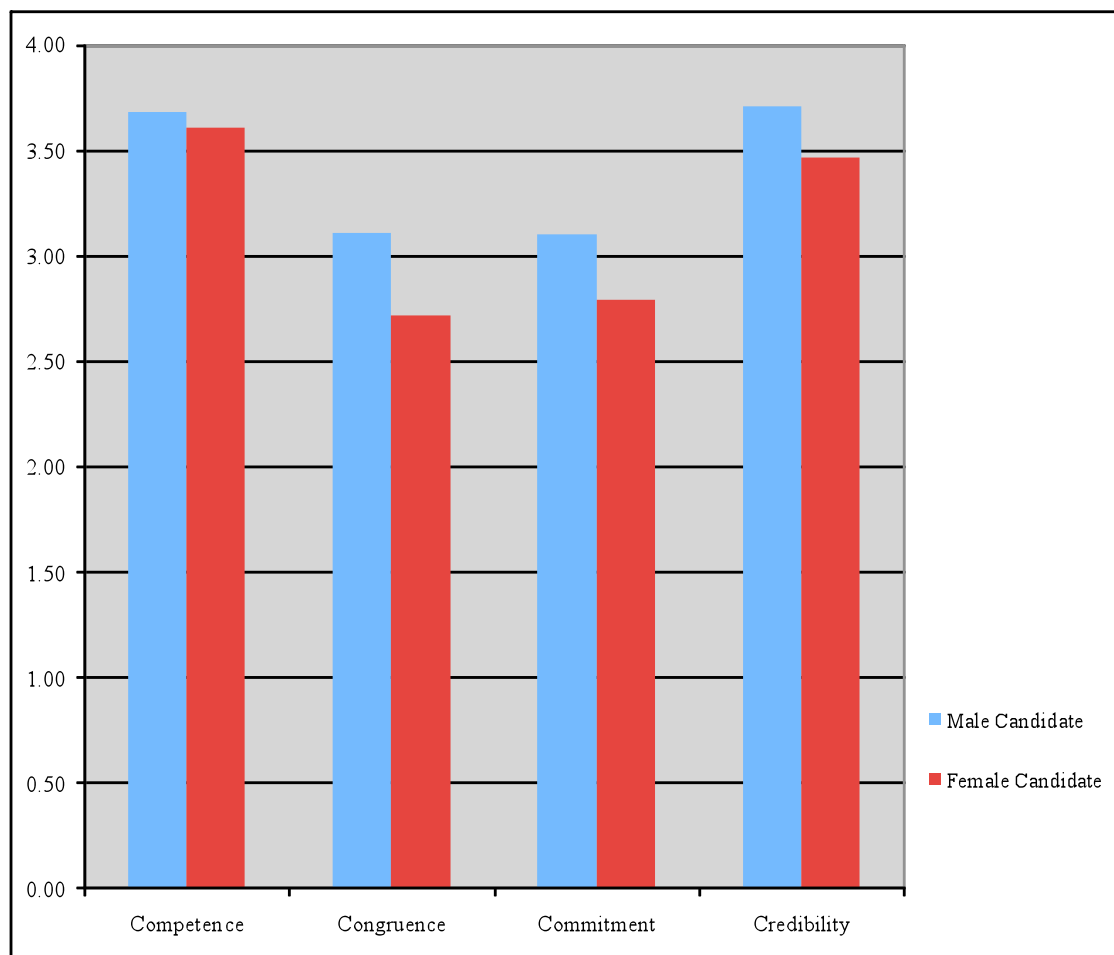


Figure 3.3. Mean Assessments of Moderate-Quality Male vs. Female Candidates on Competence, Congruence, Commitment, and Credibility

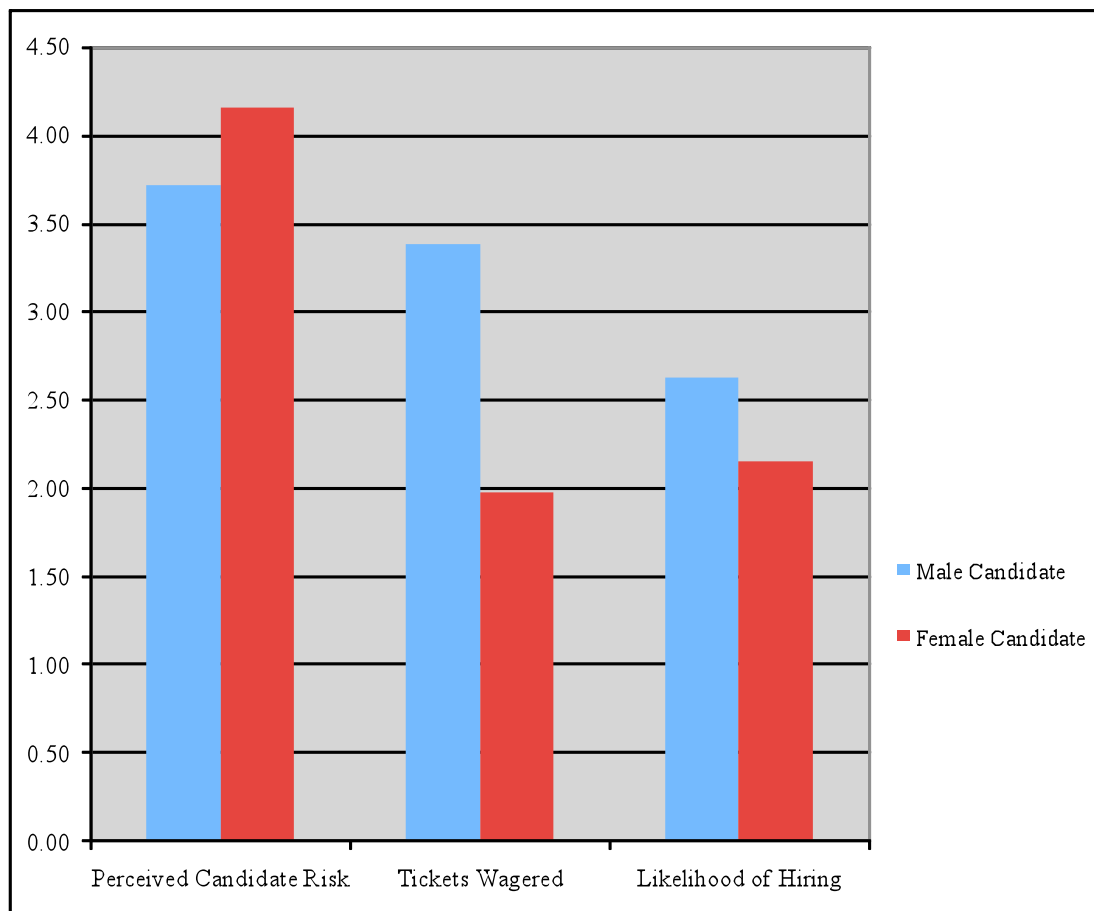


Figure 3.4. Mean Assessments of Moderate-Quality Male vs. Female Candidates on Perceived Candidate Risk, Tickets Wagered, and Likelihood of Hiring

Hypothesis 7 proposed that for moderate-quality candidates, the relationship between gender and perceived candidate risk would be mediated by assessments of competence, congruence, commitment, and credibility. This hypothesis was supported, with congruence and commitment serving as the mediators between gender and perceived candidate risk. As reported above, there was a significant relationship between the independent variable (gender) and the dependent variable (perceived candidate risk), satisfying condition 1 for establishing mediation (Kenny et al., 1998). I then tested for a relationship between gender (the independent variable) and each of competence, congruence, commitment, and credibility (the potential mediators). As reported above, I found a significant relationship between gender and congruence, commitment and credibility, respectively, satisfying condition 2 for establishing mediation. I then conducted regression analysis to test for a significant relationship between congruence, commitment, and credibility (the potential mediators) and perceived candidate risk. When all three variables were included in the model, congruence $\beta=-0.622$, $t = -5.08$, $p < .001$, and commitment $\beta=-0.299$, $t = -2.60$, $p = .01$, were significant predictors of perceived candidate risk, thus satisfying condition 3 for mediation. Finally, when I included the independent variable (gender) and the two mediators (congruence and commitment) in the model, I found that the previously observed main effect of candidate gender on perceived candidate risk became nonsignificant, $\beta=0.088$, $t = 0.58$, $p = .564$, *ns*, suggesting that congruence and commitment fully mediate the relationship between gender and perceived candidate risk. I also conducted a separate mediation analysis and Sobel test for each of congruence and commitment as individual mediators. Providing further support for my hypotheses, these analyses showed that each of the two factors individually mediates the relationship between gender and perceived candidate risk.

Table 3.10. Regression Analysis Testing for the Mediating Effects of Congruence on the Relationship between Candidate Gender and Perceived Candidate Risk for Moderate-Quality Candidates

Dependent Variable	<i>B</i>	SE <i>B</i>	<i>T</i>	<i>p</i>
Test of Effect of Congruence Only on the Relationship Between Candidate Gender and Perceived Candidate Risk				
Perceived Candidate Risk				
Congruence	(.72)	.10	(7.19)	.00
Candidate Gender	.16	.16	1.04	.30
Sobel Test for Mediation of Congruence Between Candidate Gender and Perceived Candidate Risk				
Input		Test statistic	<i>p</i> -value	
<i>a</i> = regression coefficient for the association between IV and mediator	(.036)	(2.08)	.04	
<i>s_a</i> = standard error of <i>a</i>	.179			
<i>b</i> = coefficient for the association between mediator and DV	(.745)			
<i>s_b</i> = standard error of <i>b</i>	.097			

Table 3.11. Regression Analysis Testing for the Mediating Effects of Commitment on the Relationship between Candidate Gender and Perceived Candidate Risk for Moderate-Quality Candidates

Dependent Variable	<i>B</i>	SE <i>B</i>	<i>T</i>	<i>p</i>
Test of Effect of Commitment Only on the Relationship Between Candidate Gender and Perceived Candidate Risk				
Perceived Candidate Risk				
Commitment	(.53)	.12	(4.44)	.00
Candidate Gender	.23	.18	1.25	.22
Sobel Test for Mediation of Commitment Between Candidate Gender and Perceived Candidate Risk				
Input		Test statistic	<i>p</i> -value	
<i>a</i> = regression coefficient for the association between IV and mediator	(.401)	(2.07)	.04	
<i>s_a</i> = standard error of <i>a</i>	.176			
<i>b</i> = coefficient for the association between mediator and DV	(.564)			
<i>s_b</i> = standard error of <i>b</i>	.115			

Table 3.12. Regression Analysis Testing for the Mediating Effects of Perceived Candidate Risk on the Relationship Between Candidate Gender and Likelihood of Hiring for Moderate-Quality Candidates

Dependent Variable	<i>B</i>	SE <i>B</i>	<i>T</i>	<i>p</i>
Test of Effects of Perceived Candidate Risk on Relationship Between Candidate Gender and Likelihood of Hiring				
Likelihood of Hiring				
Perceived Candidate Risk	(.73)	.10	(7.71)	.00
Candidate Gender	(.14)	.16	(0.86)	.39
Sobel test for Mediation of Perceived Candidate Risk Between Candidate Gender and Likelihood of Hiring				
Input		Test statistic	<i>p</i> -value	
<i>a</i> = regression coefficient for the association between IV and mediator	.429	(2.09)	.04	
<i>s_a</i> = standard error of <i>a</i>	.198			
<i>b</i> = coefficient for the association between mediator and DV	(.755)			
<i>s_b</i> = standard error of <i>b</i>	.092			

Finally, Hypothesis 8, which proposed that for moderate-quality candidates the relationship between gender and the likelihood of hiring would be mediated by assessments of perceived candidate risk, was also supported. As already reported, I found a significant main effect of candidate gender on both likelihood of hiring (the dependent variable) and perceived candidate risk (the mediator), thus satisfying conditions 1 and 2 for establishing mediation (Kenny et al., 1998). Regression analysis revealed a significant relationship between perceived risk and likelihood of hiring, $\beta = -0.755$, $t = -8.21$, $p < .001$, satisfying the third condition for mediation. Finally, when I included the independent variable and the mediator in the model, I found that the previously observed main effect of candidate gender on likelihood of hiring became

nonsignificant, $\beta = -.142$, $t = -0.86$, $p = .391$, *ns*. A Sobel test ($Z = 2.09$, $p < .05$) confirmed that the reduction in the main effect was significant when including both the independent variable and the mediator in the model. Therefore, the fourth condition was satisfied, providing support for Hypothesis 8.

Discussion

In Study 1, I sought to begin testing certain propositions drawn from the risk model of executive selection. In general, the results provided strong support for the proposed model. Each of the hypotheses relating to the relationship between candidate quality and perceived candidate risk and between perceived candidate risk and likelihood of hiring were fully supported. Specifically, I found that moderate-quality candidates are perceived as carrying greater candidate risk than high-quality candidates and that as a result of these higher perceptions of risk, moderate-quality candidates are less likely to be hired than high-quality candidates.

My hypotheses about the relationship between gender and quality were also largely supported. Specifically, I found that gender has a greater effect on perceptions of congruence, credibility, competence, perceived candidate risk, number of tickets wagered, and likelihood of hiring for moderate-quality candidates than for high-quality candidates. Interestingly, this relationship did not hold for perceptions of commitment; in this instance women were perceived as less committed than men irrespective of their overall quality. This finding, although not consistent with my hypothesis about the interaction of quality and gender, is supportive of Proposition 5 of the risk model of executive selection, which predicts that female candidates will be perceived as less committed than male candidates. Further, the finding suggests that commitment may be a particularly important factor contributing to bias against women, one that women can't overcome simply by being exceptionally qualified.

Recently, there has been substantial attention paid to this issue within both the popular press and the research community, in particular as it relates to working mothers (Belkin, 2003; Correll et al., 2007; Cuddy et al., 2004; Mero & Sellers, 2003; Wallis, 2004). It may be that as a result of the particular salience of these issues, coupled with the fact that the candidates being considered in the study were mid-career professionals of prime child-bearing years, participants were particularly prone to the use of stereotypes—stereotypes unfavorable to women—in evaluating the relative commitment of men and women.

For moderate-quality candidates, women were seen as less congruent, less credible, and less committed than men, but unexpectedly were not seen as less competent than men. I suspect that this pattern of findings may stem from the fact that undergraduates express strong conscious norms of equality yet, as products of our culture, still hold largely unconscious biases about the relative qualifications of men and women. In instances such as this, where participants strongly want to maintain an “illusion of objectivity” (Pyszczynski & Greenberg, 1987) for themselves and others, research has shown that they may engage in casuistry to mask the true reasons for their decisions (Norton, Vandello, & Darley, 2004). An explanation of casuistry is consistent with the above-described pattern of findings; in other words, if engaging in it, participants might emphasize the importance of factors (such as commitment, congruence, and credibility) where gender difference is more easily rationalized and that support their biased reasoning while downplaying the importance of other factors (such as competence) where they cannot easily justify a gender difference.

As a result of the perception that moderate-quality women were less congruent and less committed than men, they were perceived as carrying higher candidate risk than comparable male candidates and, as a result, were less likely to be hired. In contrast, perceptions of high-quality female candidates did not differ from those of

men with respect to congruence, commitment, credibility, perceived candidate risk, or likelihood of hiring. Unexpectedly, however, high-quality female candidates were perceived as *more* competent than high-quality male candidates. One possible explanation for this surprising finding is that participants' evaluations were influenced by the "talking platypus phenomenon" (Abramson, Goldberg, Greenberg, & Abramson, 1977) in which the fact that a woman was able to demonstrate clear success at a high level in a male-dominated field was so surprising that it tended to magnify her achievement, resulting in an overvaluation of her qualifications (Heilman, Martell, & Simon, 1988).

In summary, the findings from Study 1 provide compelling support for the notion that unless executive women demonstrate undisputed excellence, gender-based biases about their relative congruence and commitment will result in their being perceived as riskier candidates for hire. These higher perceptions of risk in turn result in moderate-quality women being less likely to be hired, thus providing at least a partial explanation for why there are still so few women at the top.

Limitations

While Study 1 takes an important first step in testing and supporting the predictions of the risk model of executive selection, it does have some limitations. First, my participants were undergraduates, who are very unlikely to have experience in making hiring decisions, particularly for executive positions. Second, the study used a simple vignette describing the candidate being considered instead of the more fulsome and realistic materials such as a cover letter and resume that would typically be reviewed by a hiring manager when evaluating a job candidate. The use of such limited materials could have resulted in greater bias against the female candidates; as mentioned above, research has shown that individuals use stereotypes more frequently

when they have less individuating information about the person being evaluated (Tosi & Einbender, 1985). Finally, my use of a between-subjects design in which participants evaluated either a male or female candidate but were not asked to evaluate both side by side means that I must rely on statistical analysis to determine how female candidates were evaluated relative to male candidates. This is a common and appropriate methodology for this type of research; however, greater confidence could be drawn from my results if they were replicated using a different design. As I discuss in the next chapter, I designed and conducted Study 2 in an effort to address each of these limitations of Study 1, as well as attempt to replicate its findings.

CHAPTER 4:
EFFECT OF CANDIDATE GENDER ON THE RELATIONSHIPS BETWEEN
COMPETENCE, CONGRUENCE, COMMITMENT, CREDIBILITY,
CANDIDATE RISK, AND HIRING: STUDY 2

Study 2 was designed to replicate the gender-related findings of Study 1 while also addressing some of its limitations. Given those goals, in this study I chose to use a sample of MBA students and provided them with a file of information on two candidates for an executive position that closely resembled an information file that would be prepared by an actual executive recruiter. Further, the study employed a within-subjects design in which participants were asked to evaluate two candidates of moderate quality, one male and one female: a situation that closely mirrors the real world where evaluators are often asked to consider multiple applicants for a single job. I also made some slight adjustments to the stimulus materials, lowering the title of the position being filled from executive vice president to vice president and the target salary range from \$250,000 to \$400,000 to \$150,000 to \$250,000. These adjustments were intended to make the materials somewhat more accessible to the participants, who as MBA students might be considered for such a job upon graduation or within a few years of graduating. Given the goals of the study, I did not retest the quality hypotheses used in Study 1, but instead focused on replicating the gender hypotheses for moderate-quality candidates tested and largely supported in Study 1. My hypotheses for Study 2 are below:

Hypothesis 1: Female candidates will be perceived as less competent, less congruent, less committed, and less credible than male candidates.

Hypothesis 2: Perceived candidate risk will be higher for female candidates than for male candidates.

Hypothesis 3: Female candidates will be less likely to be hired than male candidates.

Hypothesis 4: The relationship between gender and perceived candidate risk will be mediated by assessments of competence, congruence, commitment, and credibility.

Hypothesis 5: The relationship between gender and likelihood of being hired will be mediated by assessments of perceived candidate risk.

Method

Participants

Participants for this study were 61 MBA students from a mid-sized business school in the eastern United States. This sample was chosen because they were more likely to have work and management experience than the undergraduate sample of Study 1, as well as more likely to have some experience contributing to hiring and promotion decisions. For their participation, participants were entered into a lottery for \$250 in cash and either paid \$20 in cash or given extra credit in a course unaffiliated with the researcher. The participants were composed of 29 males and 32 females, were predominantly Asian (49.2%) or Caucasian (47.5%), and were between 24 and 38 years old ($M = 28.56$ years, $SD = 2.74$ years). Of the total, 57.4% of the participants reported being either a U.S. citizen or permanent resident of the United States, and participants' years of work experience and management experience varied from 1 to 14 years ($M = 5.18$ years, $SD = 2.22$ years) and from 0 to 9 years ($M = 2.44$ years, $SD = 1.95$ years), respectively.

Design and Procedure

The study used a within-subjects experimental design in which each participant was asked to evaluate two candidates for an executive position, one male and one female. I manipulated candidate gender by changing the first name of the candidates to be male or female (Frank or Audrey and Jack or Jane). I chose these names because research has previously established that they are matched on attractiveness and competence (Kasof, 1993). The study was conducted in an experimental research lab at a business school in the eastern United States. I counterbalanced both the genders of the resumes and the order in which the candidates were presented to participants, so that approximately one quarter of the participants saw resume A with Audrey then resume B with Jack, one quarter saw resume A with Frank then resume B with Jane, one quarter saw resume B with Jack then resume A with Audrey, and one quarter saw resume B with Jane and then resume A with Frank.

Pre-Task. Upon agreeing to take part in the study, participants were told that the study was aimed at understanding the factors that individuals consider when hiring executives. Prior to coming to the lab, they were asked by email to complete a brief online ranking task. In the task, they were told they would be asked to read an actual job posting (similar to that used in Study 1) used by a pharmaceutical company seeking to hire a senior executive several years earlier. They were told that an executive recruiting firm had narrowed the search to eight candidates and prepared a confidential profile on each, and that one of the eight candidates had been hired for the job and performed very well. Each participant was asked to imagine that he or she was the individual responsible for hiring the best candidate for the position. Further, participants were told that upon coming to the lab, they would be asked to review and evaluate two of the eight candidates, using the detailed confidential profiles they would be provided for each candidate.

They were then provided with a description of a company seeking to hire a vice president for sales and marketing, and a description of the position and qualities required for the job. After reading the company and job description, participants were then asked to rank a list of eight candidate attributes in terms of their importance in deciding whom to hire to fill the position. They were told that the ranking would be used to select the two finalists they would be asked to evaluate in the lab, based on identifying those two candidates that mostly closely possessed the candidate attributes they indicated. In reality, once in the lab, all participants were provided with the same two candidate profiles, albeit with varying names and in a varying order as described above. The purpose of the ranking task was to reduce the likelihood that participants suspected the focus of the study was gender by leading them to believe that they had selected their two “finalist” candidates.

Primary Task. Upon arriving at the lab, participants were reminded that their two “finalist” candidates were selected based upon the prestudy task and then were provided with a hard copy of the job description they had previously read and the two confidential profiles. The stimulus materials for Study 2 are included in Appendix C. Each confidential profile was composed of a cover sheet, a candidate overview and interview summary purportedly prepared by an executive recruiter, and a cover letter and resume purportedly submitted by the candidate. All of the materials were intended to give the impression of two moderately qualified candidates with respect to competence, congruence, commitment, and credibility. For example, both candidates had the minimum (but not in excess of the) required years of work and management experience requested in the job posting; the interview summary for both candidates suggested that the new position would be a “step up” or “challenging”; and both were relocating to the Boston area for unspecified reasons. One of the challenges of this study was to create confidential profiles that were equivalent but not so similar that

they raised suspicions about their authenticity. To do this, the two confidential profiles were extensively pretested without names or any gender identifiers using first undergraduates, and then MBAs drawn from the same pool of subjects as the actual participants in order to establish that they were equivalent with respect to each of the key measurement constructs described below. According to the pretest findings for the materials actually used in Study 2, using the same scales used in the study, there were no significant differences between the two confidential profiles with respect to competence, congruence, commitment, credibility, perceived risk, likelihood of hiring, salary, or number of tickets bet. Further, pretest participants were not more likely to hire one candidate over the other when forced to choose between the two. In addition to pretesting, to ensure that differences in the confidential profiles did not systematically influence the results, in the actual study I counterbalanced across the two versions of the materials and tested my results for effects from both the resume evaluated and the order in which the resumes were presented. Neither the order nor resume had any significant effects, so they were dropped from the analysis.

Participants were instructed to re-read the company and job description, review both of the confidential profiles completely, and then answer a series of questions about each of the two candidates. After completing the questions about the candidates, participants were asked to answer several questions about the gender composition and task-typing of the pharmaceutical industry, as well as to provide some demographic information on themselves.

Selection of Industry Context

Using the same criteria as discussed in Study 1, I elected to use the pharmaceutical industry in Study 2 as well. Study 2 participants estimated that executives in the pharmaceutical industry are composed of 74.8% men and 25.2%

women and that all employees are composed of 53.9% men and 46.1% women, which compares to an actual gender composition in the industry in 2006 of 62.8% men and 37.2% women officials and managers and 51% men and 49% women employees. Further, to explicitly confirm that the pharmaceutical industry was perceived by participants as moderately male-typed with respect to task-typing, I asked participants, “Ranging from entirely female-typed (1) to entirely male-typed (5), how would you characterize the gender-typing of the pharmaceutical industry?” A rating equal to the scale midpoint (3) would indicate an equal number of male- and female-typed tasks. Participants reported that the pharmaceutical industry had significantly more male-typed tasks than the neutral midpoint ($M = 3.61$, $SD = .613$, $t(60) = 7.726$, $p < .001$).

Dependent Measures

In general, in Study 2, for each of the two candidates evaluated, I used the same scales as those used in Study 1. In addition, as a result of the within-subjects design, I was able to collect an additional measure in which participants were asked to choose which of the two candidates they would hire if forced to make a choice between them. The components of each scale and Cronbach’s alpha for each scale for each of the male and female candidates are provided below.

Competence. This measure was made up of seven items, each of which was measured on a five-point Likert-type scale. Participants were asked to indicate the degree to which the job candidate was capable, efficient, skilled, intelligent, independent, organized, and competent. Cronbach’s alpha for the measure for the male candidates was .836 and for the female candidates was .869.

Congruence. For this measure, I used the scale developed by Kristof-Brown (2000) to measure both perceived person-organization fit and perceived person-job fit. The scale included seven items, each measured on a five-point Likert-type scale.

Cronbach's alpha for the measure for the male candidates was .897 and for the female candidates was .879.

Commitment. This measure was composed of five items drawn from Allen, Russell, and Rush's (1994) measure of perceived commitment. Each item was measured on a five-point Likert-type scale and included statements such as "The candidate appears loyal to the organization" and "The candidate feels a strong sense of belonging to the organization." Cronbach's alpha for the measure for the male candidates was .865 and for the female candidates was .858.

Credibility. This measure was made up of six items, each of which was measured on a five-point Likert-type scale. Participants were asked to indicate the degree to which the job candidate was: credible, trustworthy, respected, an expert, and likeable, and were also asked to indicate their degree of confidence in the candidate's skills and abilities. Cronbach's alpha for the measure for the male candidates was .816 and for the female candidates was .732.

Perceived Candidate Risk. This scale included five items, each measured on a five-point Likert-type scale. They included the following questions: 1) Indicate the risk category (ranging from no risk to extremely risky) that best expresses the amount of risk you perceive in hiring this candidate, 2) How confident are you that this candidate will be successful in the job? (reverse scored), 3) How confident are you that this candidate is the best person for the job? (reverse scored), 4) To what degree would you be willing to stake your reputation on this candidate succeeding? (reverse scored), and 5) How worried are you that this candidate will be unsuccessful (fail) in the position? Cronbach's alpha for the measure for the male candidates was .877 and for the female candidates was .896.

Salary. This was a single-item measure intended to provide an additional measure of risk. In this case, participants were told that the typical salary for this

position falls within a range of \$150,000 to \$250,000 and then asked how much they would offer each candidate if he or she was selected for the position. To the extent that participants were willing to pay a candidate a higher amount of money, it might imply that they perceived the candidate as being of lower risk, and to the extent that they were only willing to pay a lower amount of money, it might imply that they perceived the candidate as being of higher risk.

Behavioral Measure of Perceived Candidate Risk. In order to obtain a behavioral measure of participants' relative likelihood of hiring the two job candidates they evaluated, as part of the compensation for participating in the study participants were given 10 lottery tickets, each of which represented 1 entry into a lottery drawing for \$250. They were then given the opportunity to bet between 0 and 10 of those tickets on whether each of the two candidates they evaluated was actually the individual hired as vice president for sales and marketing, eastern region. They could bet on one or both of the candidates but could not bet more than 10 tickets in total. Further, they were told that if they were correct in their bets, the number of tickets bet would be doubled, thereby doubling their chance to win the \$250 prize. If they lost the bets, they would lose the number of tickets wagered. I then measured the number of tickets bet by participants on the male candidates versus the female candidates. (In reality, because the materials were fictional, all participants received one entry into the lottery.)

Likelihood of Hiring. This was a single-item measure in which I asked participants to indicate on a five-point scale "How likely would you be to hire the candidate if you knew that you would be evaluated based on his or her success?"

Forced-choice Measure. In this single-item measure, participants were asked to answer the question "If you had to hire one of the two candidates you reviewed which would you hire?"

Results

Manipulation Checks

In order to confirm that I was successful in creating candidates of moderate quality on each of the four dimensions—competence, congruence, commitment, and credibility—I performed simple effects tests to determine whether participants actually evaluated the candidates as being of moderate quality. Somewhat surprisingly, I found that participants rated both the male and female candidate significantly above the scale midpoint for each of competence ($(M(\text{male}) = 4.09, t(60) = 17.35, p < .001)$, $(M(\text{female}) = 4.15, t(60) = 18.89, p < .001)$), congruence ($(M(\text{male}) = 3.72, t(60) = 8.59, p < .001)$, $(M(\text{female}) = 3.69, t(60) = 8.34, p < .001)$), commitment ($(M(\text{male}) = 3.19, t(60) = 2.05, p < .05)$, $(M(\text{female}) = 3.29, t(60) = 3.32, p < .01)$), and credibility ($(M(\text{male}) = 3.89, t(60) = 13.80, p < .001)$, $(M(\text{female}) = 3.90, t(60) = 14.63, p < .001)$). Given the quality-related findings of Study 1 that suggested either no bias or bias in favor of high-quality female candidates relative to high-quality male candidates, these results suggest that Study 2 represents a quite conservative test of my gender hypotheses, since candidates of both gender were seen as significantly better than moderate.

Hypotheses

In order to test each of Hypotheses 1, 2, and 3, I conducted a repeated measure multivariate test with the relevant scale measure as the within-subjects factor. Surprisingly, none of these hypotheses were supported. According to Hypothesis 1, I expected that female candidates would be perceived as less competent, less congruent, less committed, and less credible than male candidates. However, tests revealed that participants did not evaluate the male and female candidates as being significantly different from one another with respect to competence ($F(1, 60) = .676, ns$),

congruence ($F(1, 60) = .118, ns$), commitment ($F(1, 60) = .649, ns$), or credibility ($F(1, 60) = .008, ns$). These results are shown in Table 4.1.

Table 4.1. Effect of Candidate Gender on Assessments of Competence, Congruence, Commitment, and Credibility

Dependent Variable	Mean (SD)	<i>F</i>	<i>p</i>
Competence (N = 61)			
Male Candidate	4.09 (.49)		
Female Candidate	4.15 (.47)		
Hypothesis: Male Candidate > Female Candidate		.68	.41
Congruence (N = 61)			
Male Candidate	3.72 (.66)		
Female Candidate	3.69 (.64)		
Hypothesis: Male Candidate > Female Candidate		.12	.73
Commitment (N = 61)			
Male Candidate	3.19 (.73)		
Female Candidate	3.29 (.69)		
Hypothesis: Male Candidate > Female Candidate		.65	.42
Credibility (N = 61)			
Male Candidate	3.89 (.50)		
Female Candidate	3.90 (.48)		
Hypothesis: Male Candidate > Female Candidate		.01	.93

According to Hypotheses 2 and 3, I expected that female candidates would be perceived as carrying higher candidate risk than male candidates and that they would be less likely to be hired than male candidates. Again, contrary to my expectations, results showed no significant difference between the perceived candidate risk of male and female candidates ($F(1, 60) = .002, ns$), the salary participants said they would pay each of the candidates ($F(1, 59) = .015, ns$), nor the tickets bet on them ($F(1, 60) = .704, ns$). Further, participants did not indicate that they were more likely to hire candidates of one gender over the other ($F(1, 60) = .042, ns$). These results are shown in Table 4.2. Finally, when presented with a forced choice between the male and

female candidates, they were just as likely to hire the female candidate (coded as 2) as the male candidate (coded as 1) ($M = 1.49$, $t(60) = -.127$, ns).

Table 4.2. Effect of Candidate Gender on Assessments of Perceived Candidate Risk, Salary, Number of Lottery Tickets Wagered, and Likelihood of Hiring

Dependent Variable	Mean (SD)	<i>F</i>	<i>p</i>
Perceived Candidate Risk (N = 61)			
Male Candidate	2.71 (.83)		
Female Candidate	2.71 (.80)		
Hypothesis: Male Candidate < Female Candidate		.00	.96
Salary (N = 61)			
Male Candidate	\$184k (24.8)		
Female Candidate	\$184k (23.8)		
Hypothesis: Male Candidate > Female Candidate		.02	.90
Number of Lottery Tickets Wagered (N = 61)*			
Male Candidate	3.23 (2.97)		
Female Candidate	3.79 (3.26)		
Hypothesis: Male Candidate > Female Candidate		.70	.41
Likelihood of Hiring (N = 61)			
Male Candidate	3.16 (.93)		
Female Candidate	3.13 (.94)		
Hypothesis: Male Candidate > Female Candidate		.04	.84

* I also conducted the same analyses using the natural log of tickets wagered and the proportion of tickets wagered on the male versus the female candidate, and they showed similar nonsignificant results.

In order to demonstrate the mediation predicted in Hypotheses 4 and 5, four conditions had to be satisfied: 1) the independent variable had to be significantly related to the dependent variable, 2) the independent variable had to be significantly related to the mediator, 3) the mediator had to be significantly related to the dependent variable, and 4) the independent and dependent variable relationship had to be significantly reduced in the presence of the mediator (Kenny et al., 1998). Given that the findings for Hypotheses 1, 2, and 3 were not supported, thus failing to satisfy

conditions 1, 2, and 3 of the mediation analysis, Hypotheses 4 and 5 were also not supported.

Given my lack of significant findings and, in particular, given that they were so inconsistent with the findings from Study 1, I conducted further analysis of the data to determine whether there were any significant patterns underlying my overall findings that might be of interest. In particular, I was curious to see whether male and female participants evaluated the relative qualifications of the male and female candidates differently. Although numerous studies, including Study 1, have demonstrated that women as well as men engage in bias against women, other studies have suggested that U.S. women, in particular, have begun to change their conception of leaders as predominantly male into one that is more gender-neutral in content (Brenner, Tomkiewicz, & Schein, 1989; Schein, Mueller, & Jacobson, 1989). Therefore, it is plausible that male and female participants may have evaluated the relative qualifications of the male and female candidates differently. In addition, given that over 40% of my participants are neither U.S. citizens nor permanent residents of the United States, I was also curious to see whether this variable had any effect on the results. Since gender bias and stereotypes are socially and culturally constructed, it seems likely that participants from different cultures may evaluate the relative qualifications of male and female job candidates differently.

In order to investigate the impact of participant gender on my results, for each dependent measure I conducted a repeated measure multivariate test with the dependent measure as the within-subjects factor, and with participant gender as the between-subjects factor. The means and standard deviations for each dependent measure by participant gender are shown in Table 4.3, and the results of the repeated measure multivariate analysis are shown in Table 4.4. Interestingly, these tests showed significant interaction effects between participant gender and credibility ($F(1,59) =$

4.107, $p < .05$), perceived candidate risk ($F(1,59) = 6.945, p < .05$), salary paid ($F(1,58) = 5.78, p < .05$), and likelihood of hiring ($F(1,59) = 5.511, p < .05$). In each case, the means followed a pattern in which male participants evaluated the male candidates more favorably than the female candidates, while the female participants evaluated the female candidates more favorably than the male candidates. For the dependent measures of competence and congruence, the means followed the same pattern, but the differences between the male and female candidates did not meet the typical standard ($p < .05$) for statistical significance. For the remaining two dependent measures of commitment and number of tickets bet, both male and female participants evaluated the female candidate more favorably than the male candidate, but again, these differences were not statistically significant.

To investigate the impact of U.S. citizenship or permanent residence on my results, for each dependent measure I conducted a repeated measure multivariate test with the dependent measure as the within-subjects factor, and with U.S. citizenship/permanent residence as the between-subjects factor. These results are shown in Table 4.5. None of these tests showed significant interaction effects between U.S. citizenship and the dependent measures using the typical standard for statistical significance of $p < .05$. However, using a standard of $p < .10$ these tests showed significant interaction effects between U.S. citizenship and congruence ($F(1,59) = 2.880, p = .10$), perceived candidate risk ($F(1,59) = 2.764, p = .10$), and salary paid ($F(1,58) = 3.240, p = .08$). In each case, the means followed a pattern in which non-U.S. participants evaluated the male candidates more favorably than the female candidates, while the U.S. participants evaluated the female candidates more favorably than the male candidates. Finally, in order to investigate the impact of U.S. citizenship on the decisions of participants when faced with a forced choice between a male candidate and a female candidate, I ran a chi-square test and found that U.S.

citizenship had a significant effect ($X^2(1, N = 61) = 3.846, p = .05$) on whether the male or the female candidate was hired: U.S. citizens or permanent residents (both male and female) favored the female candidate over the male candidate 21:14, and the non-U.S. participants favored the male candidate over the female candidate 17:9. This finding, coupled with the weak but perhaps illustrative pattern of data on the more evaluative questions, suggests that non-U.S. citizens (in this case, from predominantly Asian cultures) may engage in greater bias against women than do U.S citizens and permanent residents.

Analyses by Gender of Participants. While I was hesitant to draw any conclusions from the findings derived from interactions of gender and U.S. citizenship, I did keep them in mind as I further investigated the patterns of findings underlying the interactive effects of participant gender and split my data into two groups composed of male participants and female participants, respectively. For each group, I conduct repeated measure multivariate tests for each dependent variable.

Table 4.3. Means and Standard Deviations for Assessments of Competence, Congruence, Commitment, Credibility, Perceived Candidate Risk, Salary, Number of Lottery Tickets Wagered, and Likelihood of Hiring by Participant Gender

Dependent Variable	Mean (Standard Deviation)			
	Male Participants (n = 29)		Female Participants (n = 32)	
	Male Candidate	Female Candidate	Male Candidate	Female Candidate
Competence	4.11 (.55)	4.07 (.44)	4.04 (.49)	4.24 (.44)
Congruence	3.72 (.70)	3.54 (.67)	3.73 (.62)	3.82 (.60)
Commitment	3.15 (.67)	3.29 (.69)	3.23 (.78)	3.30 (.70)
Credibility	3.90 (.60)	3.76 (.48)	3.88 (.41)	4.02 (.45)
Perceived Candidate Risk	2.55 (.84)	2.97 (.82)	2.85 (.81)	2.49 (.71)
Salary	\$187.6 (26.2)	\$180.0 (22.5)	\$181.0 (23.5)	\$188.9 (24.6)
Number of Tickets Wagered	2.83 (2.65)	3.52 (3.31)	3.59 (3.24)	4.03 (3.25)
Likelihood of Hiring	3.31 (.97)	2.90 (.77)	3.03 (.90)	3.34 (1.04)

Table 4.4. Repeated Measure Multivariate Analysis of Variance for Effects of Participant Gender on Assessments of Competence, Congruence, Commitment, Credibility, Perceived Candidate Risk, Number of Lottery Tickets Wagered, Salary, and Likelihood of Hiring

Source	df	<i>F</i>	<i>P</i>
Competence	1	.56	.46
Competence X Participant Gender	1	2.89	.09
Error	59	(.14)	
Congruence	1	.17	.68
Congruence X Participant Gender	1	1.72	.20
Error	59	(.32)	
Commitment	1	.66	.42
Commitment X Participant Gender	1	.09	.76
Error	59	(.51)	
Credibility	1	.00	.99
Credibility X Participant Gender	1	4.11	.05
Error	59	(.13)	
Perceived Candidate Risk	1	0.03	.86
Perceived Risk X Participant Gender	1	6.95	.01
Error	59	(.66)	
Number of Lottery Tickets Wagered*	1	0.71	.40
Tickets Wagered X Participant Gender	1	.04	.85
Error	59	(13.68)	
Salary	1	.00	.96
Salary X Participant Gender	1	5.78	.02
Error	58	(3.10E8)	
Likelihood of Hiring	1	.11	.75
Hiring X Participant Gender	1	5.51	.02
Error	59	(.73)	

Note: Mean squared error shown in parentheses.

* I also conducted the same analyses using the natural log of tickets wagered and the proportion of tickets wagered on the male versus the female candidate, and they showed similar nonsignificant results.

Table 4.5. Repeated Measure Multivariate Analysis of Variance for Effects of U.S. Citizenship or Permanent Residence on Assessments of Competence, Congruence, Commitment, Credibility, Perceived Candidate Risk, Number of Lottery Tickets Wagered, Salary, and Likelihood of Hiring

Source	df	F	P
Competence	1	.58	.45
Competence X U.S. citizenship	1	.08	.77
Error	59	(.15)	
Congruence	1	.35	.55
Congruence X U.S. citizenship	1	2.88	.10
Error	59	(.32)	
Commitment	1	.55	.46
Commitment X U.S. citizenship	1	.13	.72
Error	59	(.51)	
Credibility	1	.00	.98
Credibility X U.S. citizenship	1	.55	.46
Error	59	(.14)	
Perceived Candidate Risk	1	.09	.77
Perceived Risk X U.S. citizenship	1	2.76	.10
Error	59	(.70)	
Number of Lottery Tickets Wagered	1	0.43	.52
Tickets Wagered X U.S. citizenship	1	1.51	.23
Error	59	(13.35)	
Salary	1	.01	.91
Salary X U.S. citizenship	1	3.24	.08
Error	58	(3.23E8)	
Likelihood of Hiring	1	.13	.72
Hiring X U.S. citizenship	1	1.14	.29
Error	59	(.78)	

Note: Mean squared error shown in parentheses.

* I also conducted the same analyses using the natural log of tickets wagered and the proportion of tickets wagered on the male versus the female candidate, and they showed similar nonsignificant results.

Male Participants Only

I first conducted these analyses for male participants, applying my original hypotheses to this group only. According to Hypothesis 1, I expected that female candidates would be perceived as less competent, less congruent, less committed, and less credible than male candidates. However, tests revealed that male participants did not evaluate the male and female candidates as being significantly different from one another with respect to competence ($M(\text{male}) = 4.11$, $M(\text{female}) = 4.04$, $F(1,28) = .389$, *ns*), congruence ($M(\text{male}) = 3.72$, $M(\text{female}) = 3.54$, $F(1,28) = 1.302$, *ns*), commitment ($M(\text{male}) = 3.14$, $M(\text{female}) = 3.29$, $F(1,28) = .807$, *ns*), or credibility ($M(\text{male}) = 3.90$, $M(\text{female}) = 3.76$, $F(1,28) = 1.959$, *ns*). Including U.S. citizenship as a factor in the model did not change these results or provide any further findings. Therefore, for male participants only, Hypothesis 1 was not supported. These results are shown in Table 4.6.

According to Hypotheses 2 and 3, I expected that female candidates would be perceived as carrying higher candidate risk than male candidates and that they would be less likely to be hired than male candidates. For male participants, Hypotheses 2 and 3 were supported. These results are shown in Figures 4.1 and 4.2 and Table 4.7. Specifically, tests showed that participants perceived female candidates as carrying significantly higher candidate risk than male candidates ($M(\text{male}) = 2.55$, $M(\text{female}) = 2.97$, $F(1,28) = 4.685$, $p < .05$), they indicated that they would be willing to pay male candidates significantly more than female candidates ($M(\text{male}) = \$187.6\text{k}$, $M(\text{female}) = \$180.0\text{k}$, $F(1,28) = 3.058$, $p < .05$ (one-tailed)), and they also indicated they would be more likely to hire male candidates than female candidates ($M(\text{male}) = 3.31$, $M(\text{female}) = 2.90$, $F(1,28) = 5.554$, $p < .05$). However, there was no significant difference in the number of tickets that male participants bet on male versus female candidates ($M(\text{male}) = 2.83$, $M(\text{female}) = 3.52$, $F(1,28) = .600$, *ns*). Like the tests for

the Four Cs, including U.S. citizenship as a factor in the model testing perceived risk, salary, tickets bet, and likelihood of hiring did not change these results or provide any further findings.

Table 4.6. Effect of Candidate Gender on Assessments of Competence, Congruence, Commitment, and Credibility Among Male Participants Only

Dependent Variable	Mean (SD)	<i>F</i>	<i>P</i>
Competence (N = 29)			
Male Candidate	4.11 (.55)		
Female Candidate	4.04 (.49)		
Hypothesis: Male Candidate > Female Candidate		.39	.54
Congruence (N = 29)			
Male Candidate	3.72 (.70)		
Female Candidate	3.54 (.67)		
Hypothesis: Male Candidate > Female Candidate		1.30	.26
Commitment (N = 29)			
Male Candidate	3.14 (.67)		
Female Candidate	3.29 (.69)		
Hypothesis: Male Candidate > Female Candidate		.81	.38
Credibility (N = 29)			
Male Candidate	3.89 (.60)		
Female Candidate	3.76 (.48)		
Hypothesis: Male Candidate > Female Candidate		1.96	.17

Hypothesis 4 predicted that the relationship between gender and perceived candidate risk would be mediated by assessments of competence, congruence, commitment, and credibility. However, since I did not find any significant relationships between gender and assessments of competence, congruence, commitment, and credibility, Hypothesis 4 was not supported for male participants only. Hypothesis 5 predicted that the relationship between gender and likelihood of

being hired would be mediated by assessments of perceived candidate risk. In order to test this hypothesis I conducted a Sobel test to confirm that the reduction in the main effect of candidate gender on likelihood of hiring was significant when including both candidate gender and perceived risk in the model. To do this, I first transformed the data for each participant in the study into two separate cases, with one case composed of the responses for the male candidate and one case composed of the responses for the female candidate, and then conducted a mixed model regression of the relationship between candidate gender and perceived risk, and a random-effects generalized least-squares regression of the relationship between perceived risk and likelihood of hiring. Based upon this Sobel test ($Z = 2.13, p < .05$), Hypothesis 5 was supported. The results of the Sobel test are reported in Table 4.8.

Finally, to determine whether male participants were more likely to hire male than female candidates when faced with a forced choice between them, I conducted a simple independent t-test and found that they were just as likely to hire the female candidate (coded as 2) as the male candidate (coded as 1) ($M = 1.45, t(28) = -.550, ns$). In summary, my results provided some support for the risk model of executive selection; male participants perceived female candidates as carrying more candidate risk than male candidates and as a result indicated that they were less likely to hire women than men. However, when faced with a forced choice between a male candidate and a female candidate, they were no more likely to hire the male than to hire the female.

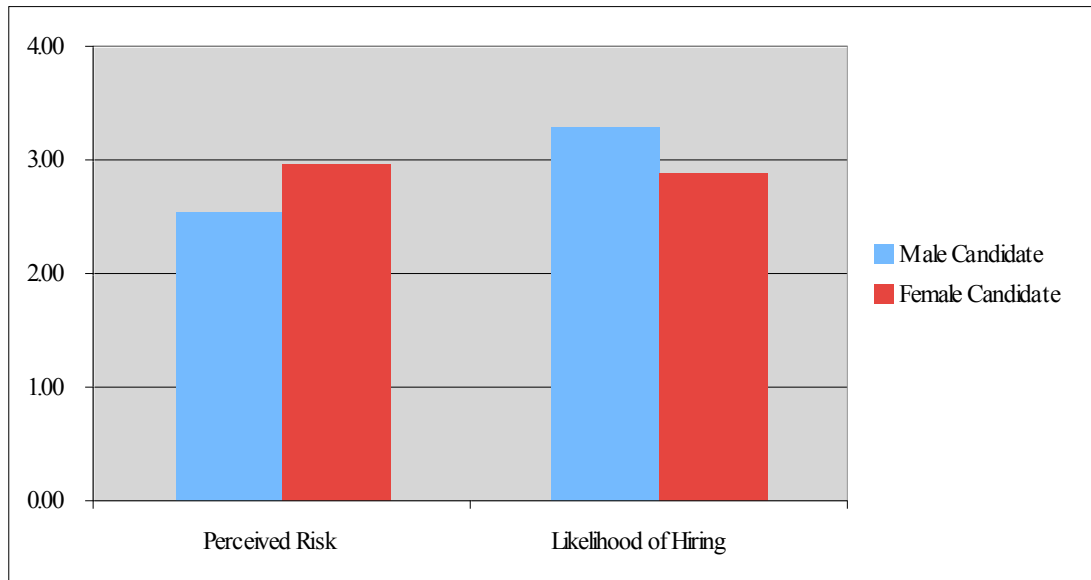


Figure 4.1. Mean Assessments of Male vs. Female Candidates on Perceived Candidate Risk and Likelihood of Hiring Among Male Participants Only

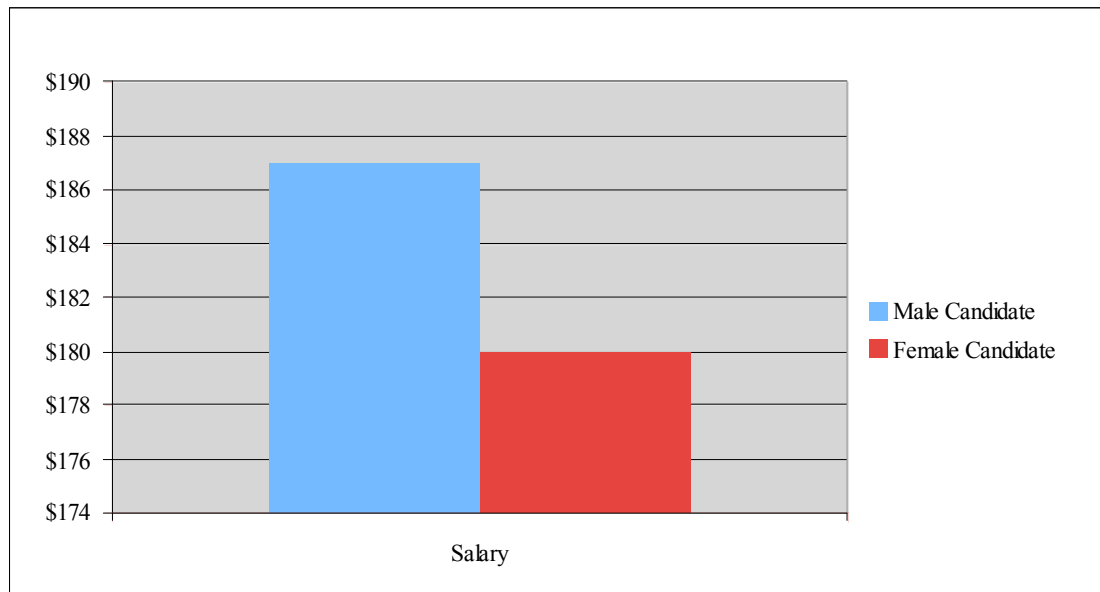


Figure 4.2. Mean Salary Paid to Male vs. Female Candidates by Male Participants Only

Table 4.7. Effect of Candidate Gender on Assessments of Perceived Candidate Risk, Salary, Number of Lottery Tickets Wagered, and Likelihood of Hiring Among Male Participants Only

Dependent Variable	Mean (SD)	<i>F</i>	<i>p</i>
Perceived Candidate Risk (N = 29)			
Male Candidate	2.55 (.84)		
Female Candidate	2.97 (.82)		
Hypothesis: Male Candidate < Female Candidate		4.69	.04
Salary (N = 29)			
Male Candidate	\$187k (26.2)		
Female Candidate	\$180k (22.5)		
Hypothesis: Male Candidate > Female Candidate		3.06	.05*
Number of Lottery Tickets Wagered (N = 29)**			
Male Candidate	2.83 (2.65)		
Female Candidate	3.52 (3.31)		
Hypothesis: Male Candidate > Female Candidate		.60	.45
Likelihood of Hiring (N = 29)			
Male Candidate	3.31 (.97)		
Female Candidate	2.90 (.77)		
Hypothesis: Male Candidate > Female Candidate		5.55	.03

* One-tailed test of significance.

** I also conducted the same analyses using the natural log of tickets wagered and the proportion of tickets wagered on the male versus the female candidate, and they showed similar nonsignificant results.

Table 4.8. Sobel Test for the Mediating Effect of Perceived Candidate Risk on the Relationship Between Gender and Likelihood of Hiring

Input		Test statistic	<i>p</i> -value
<i>a</i> = regression coefficient for the association between IV and mediator	(0.413)	2.13	.03
<i>s_a</i> = standard error of <i>a</i>	0.191		
<i>b</i> = coefficient for the association between mediator and DV	(0.902)		
<i>s_b</i> = standard error of <i>b</i>	0.070		

Female Participants Only

Having tested my original hypotheses using the data from just male participants, I then undertook the same analyses using data from just female participants. These results are shown in Tables 4.9 and 4.10. According to Hypotheses 1, 2, and 3, I initially expected that female candidates would be perceived less favorably than male candidates for each of the dependent measures. However, the significant interactive effects I found between participant gender and several of my dependent variables, combined with the fact that when looking at just male participants the risk model of executive selection received partial support, suggested that I would find a very different pattern of results—perhaps the opposite pattern—when looking at just female candidates. In other words, as I approached this supplementary analysis I expected that female participants would generally evaluate female candidates more favorably than male candidates.

For the female participants only, I conducted a repeated measure multivariate test for each of the dependent variables, testing for this pattern. Although the pattern of means for every single dependent measure was consistent with my expectation that findings would oppose those for male participants, none of these differences met the standard for significance of $p < .05$, including competence ($M(\text{male}) = 4.07$, $M(\text{female}) = 4.24$, $F(1,31) = 3.488$, *ns*), congruence ($M(\text{male}) = 3.73$, $M(\text{female}) = 3.82$, $F(1,31) = .464$, *ns*), commitment ($M(\text{male}) = 3.23$, $M(\text{female}) = 3.30$, $F(1,31) = .110$, *ns*), credibility ($M(\text{male}) = 3.88$, $M(\text{female}) = 4.02$, $F(1,31) = 2.157$, *ns*), perceived candidate risk ($M(\text{male}) = 2.84$, $M(\text{female}) = 2.48$, $F(1,31) = 2.698$, *ns*), salary ($M(\text{male}) = \$181.0\text{k}$, $M(\text{female}) = \$188.9\text{k}$, $F(1,31) = 2.794$, *ns*), number of tickets bet ($M(\text{male}) = 3.59$, $M(\text{female}) = 4.03$, $F(1,31) = .196$, *ns*), and likelihood of hiring ($M(\text{male}) = 3.03$, $M(\text{female}) = 3.34$, $F(1,31) = 1.591$, *ns*). Further, when faced with a forced choice between male and female candidates, female participants were no

more likely to hire the female candidate than the male candidate ($M = 1.53$, $t(31) = .349$, *ns*). In summary, for female participants only, none of the hypotheses were supported.

Table 4.9. Effect of Candidate Gender on Assessments of Competence, Congruence, Commitment, and Credibility Among Female Participants Only

Dependent Variable	Mean (SD)	<i>F</i>	<i>p</i>
Competence (N = 32)			
Male Candidate	4.07 (.44)		
Female Candidate	4.24 (.44)		
Hypothesis: Male Candidate < Female Candidate		3.49	.07
Congruence (N = 32)			
Male Candidate	3.73 (.62)		
Female Candidate	3.82 (.60)		
Hypothesis: Male Candidate < Female Candidate		.46	.50
Commitment (N = 32)			
Male Candidate	3.23 (.78)		
Female Candidate	3.30 (.70)		
Hypothesis: Male Candidate < Female Candidate		.11	.74
Credibility (N = 32)			
Male Candidate	3.88 (.41)		
Female Candidate	4.02 (.45)		
Hypothesis: Male Candidate < Female Candidate		2.16	.15

However, when I included U.S. citizenship as a factor in the model, an interesting pattern was revealed; namely, that female participants from the U.S. had, in fact, evaluated female candidates more favorably than male candidates, while female participants who were not from the U.S. evaluated male and female candidates virtually the same as one another. Specifically, using the U.S. female participants only ($n = 19$) and then the non-U.S. female participants only ($n = 13$), I ran repeated

measure multivariate tests for each dependent variable. Despite the relatively small size of these data sets (and correspondingly low statistical power), I still found that the U.S. female participants evaluated the female candidates significantly more favorably than the male candidates with respect to credibility ($M(\text{male}) = 3.81$, $M(\text{female}) = 4.02$, $F(1,18) = 4.103$, $p = .05$), perceived candidate risk ($M(\text{male}) = 3.09$, $M(\text{female}) = 2.37$, $F(1,18) = 6.221$, $p < .05$), and salary ($M(\text{male}) = \$174.2\text{k}$, $M(\text{female}) = \$187.8\text{k}$, $F(1,17) = 6.005$, $p < .05$). For the remainder of the dependent measures, the means followed the same pattern, but the differences in mean did not rise to a level of statistical significance.

Based on these findings, I also conducted a Sobel test to see whether the impact of gender on perceived candidate risk was mediated by assessments of credibility. To do this, I first transformed the data for each participant in the study into two separate cases, with one case composed of the responses for the male candidate and one case composed of the responses for the female candidate, and then conducted a mixed model regression of the relationship between candidate gender and credibility, and a random-effects generalized least-squares regression of the relationship between credibility and perceived risk. The Sobel test ($Z = 1.88$, $p = .06$) was marginally significant, suggesting that credibility was a partial mediator of the relationship between candidate gender and perceived risk. The results of the Sobel test are reported in Table 4.11.

For the non-U.S. female participants, none of the tests of the dependent measures yielded any findings of statistical significance. Finally, in order to investigate the impact of U.S. citizenship on the decisions of female participants when faced with a forced choice between a male candidate and a female candidate, I ran a chi-square test of independence and found that U.S. citizenship had a significant effect ($\chi^2(1, N = 32) = 4.39$, $p < .05$) on whether the male or the female candidate was

hired: U.S. women favored the female candidate over the male candidate 13:6, and non-U.S. women favored the male candidate over the female candidate 9:4.

In summary, although interesting, the results for female participants did not provide support for the risk model of executive selection; in general U.S. female participants tended to favor the female candidates over the male candidates, while the non-U.S. females appeared to evaluate candidates of both genders equally.

Table 4.10. Effect of Candidate Gender on Assessments of Perceived Candidate Risk, Salary, Number of Lottery Tickets Wagered, and Likelihood of Hiring Among Female Participants Only

Dependent Variable	Mean (SD)	<i>F</i>	<i>p</i>
Perceived Candidate Risk (N = 32)			
Male Candidate	2.84 (.81)		
Female Candidate	2.49 (.71)		
Hypothesis: Male Candidate > Female Candidate		2.70	.11
Salary (N = 31)			
Male Candidate	\$181k (23.5)		
Female Candidate	\$189k (24.6)		
Hypothesis: Male Candidate < Female Candidate		2.79	.11
Number of Lottery Tickets Wagered (N = 32)*			
Male Candidate	3.59 (3.24)		
Female Candidate	4.03 (3.25)		
Hypothesis: Male Candidate < Female Candidate		.20	.66
Likelihood of Hiring (N = 32)			
Male Candidate	3.03 (.90)		
Female Candidate	3.34 (1.04)		
Hypothesis: Male Candidate < Female Candidate		1.59	.22

* I also conducted the same analyses using the natural log of tickets wagered and the proportion of tickets wagered on the male versus the female candidate, and they showed similar nonsignificant results.

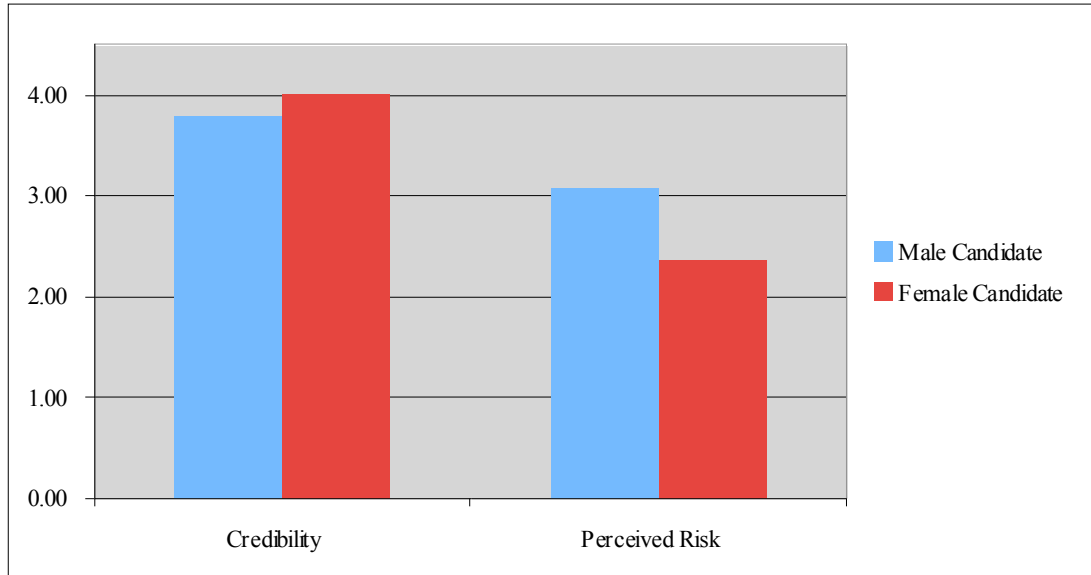


Figure 4.3. Mean Assessments of Male vs. Female Candidates on Perceived Candidate Risk and Likelihood of Hiring Among U.S. Female Participants Only



Figure 4.4. Mean Salary Paid to Male vs. Female By U.S. Female Participants Only

Table 4.11. Sobel Test for the Mediating Effect of Credibility on the Relationship Between Gender and Perceived Candidate Risk

Input		Test statistic	<i>p</i> -value
<i>a</i> = regression coefficient for the association between IV and mediator	(0.212)	1.88	.06
<i>s_a</i> = standard error of <i>a</i>	0.105		
<i>b</i> = coefficient for the association between mediator and DV	(1.32)		
<i>s_b</i> = standard error of <i>b</i>	0.266		

Analyses of Combined Effects of Gender and U.S. Citizenship of

Participants. Given the relatively complex findings within my separate analyses of male participants and female participants, with U.S. citizenship having no effect on the male participants' results, but having a significant effect on the results for female participants, I conducted one additional set of analyses to further clarify my results. Specifically, I split my data set into two categories by U.S. citizenship and then ran a series of repeated measure multivariate tests for each dependent variable using the dependent variable as the within-subjects factor, and using participant gender as the between-subjects factor. These analyses are discussed below.

Non-U.S. Participants Only

I first conducted these analyses for non-U.S. citizen/resident participants only. The results, shown in Table 4.12, revealed no significant main effects for candidate gender and no significant interaction effects for participant gender for any of the dependent measures.

U.S. Participants Only

I then conducted these analyses for U.S. citizen participants only. Interestingly, these tests showed significant interaction effects that paralleled the significant interaction effects found across the entire dataset including both U.S. citizens and non-U.S. citizens. Specifically, they showed significant interaction effects between participant gender and credibility ($F(1,33) = 5.447, p < .05$), perceived candidate risk ($F(1,33) = 8.635, p < .01$), salary paid ($F(1,32) = 4.870, p < .05$), and likelihood of hiring ($F(1,33) = 4.436, p < .05$). In each case, the means followed a pattern in which male participants evaluated the male candidates more favorably than the female candidates, while the female participants evaluated the female candidates more favorably than the male candidates. For the dependent measures of competence and congruence, the means followed a similar pattern, but the differences between the male and female candidates did not meet the typical standard ($p < .05$) for statistical significance. For the remaining two dependent measures of commitment and number of tickets bet, both male and female participants evaluated the female candidate more favorably than the male candidate, but again, these differences were not statistically significant. The means and standard deviations for each dependent measure by participant gender are shown in Table 4.13 and the results of the repeated measure multivariate analysis are shown in Table 4.14.

Table 4.12. Repeated Measure Multivariate Analysis of Variance for Effects of Participant Gender on Assessments of Competence, Congruence, Commitment, Credibility, Perceived Candidate Risk, Number of Lottery Tickets Wagered, Salary, and Likelihood of Hiring for Non-U.S. Participants Only

Source	df	<i>F</i>	<i>p</i>
Competence	1	.07	.80
Competence X Participant Gender	1	1.93	.18
Error	24	(.21)	
Congruence	1	2.16	.16
Congruence X Participant Gender	1	.42	.52
Error	24	(.34)	
Commitment	1	.07	.80
Commitment X Participant Gender	1	1.18	.29
Error	24	(.49)	
Credibility	1	.20	.66
Credibility X Participant Gender	1	32	.58
Error	24	(.17)	
Perceived Candidate Risk	1	1.90	.18
Perceived Risk X Participant Gender	1	.36	.55
Error	24	(.61)	
Number of Lottery Tickets Wagered*	1	1.92	.71
Tickets Wagered X Participant Gender	1	.37	.55
Error	24	(13.17)	
Salary	1	1.41	.25
Salary X Participant Gender	1	1.41	.25
Error	24	(3.73E8)	
Likelihood of Hiring	1	1.06	.31
Hiring X Participant Gender	1	1.06	.31
Error	24	(.65)	

Note: Mean squared error shown in parentheses.

* I also conducted the same analyses using the natural log of tickets wagered and the proportion of tickets wagered on the male versus the female candidate, and they showed similar nonsignificant results.

Table 4.13. Means and Standard Deviations for Assessments of Competence, Congruence, Commitment, Credibility, Perceived Candidate Risk, Salary, Number of Lottery Tickets Wagered, and Likelihood of Hiring by Participant Gender for U.S. Participants Only

Dependent Variable	Mean (Standard Deviation)			
	Male Participants (n = 16)		Female Participants (n = 19)	
	Male Candidate	Female Candidate	Male Candidate	Female Candidate
Competence	4.07 (.46)	4.07 (.49)	4.10 (.49)	4.23 (.42)
Congruence	3.59 (.64)	3.55 (.65)	3.52 (.65)	3.77 (.59)
Commitment	3.28 (.67)	3.33 (.68)	2.97 (.81)	3.19 (.63)
Credibility	3.83 (.53)	3.69 (.43)	3.81 (.42)	4.02 (.41)
Perceived Candidate Risk	2.51 (.76)	2.91 (.88)	3.09 (.88)	2.37 (.73)
Salary	\$176.6 (18.9)	\$173.1 (15.0)	\$174.2 (22.0)	\$187.8 (25.7)
Number of Tickets Wagered	2.44 (3.05)	3.50 (3.52)	2.68 (2.85)	4.11 (3.38)
Likelihood of Hiring	3.19 (.91)	2.81 (.75)	2.84 (1.07)	3.37 (1.01)

Table 4.14. Repeated Measure Multivariate Analysis of Variance for Effects of Participant Gender on Assessments of Competence, Congruence, Commitment, Credibility, Perceived Candidate Risk, Number of Lottery Tickets Wagered, Salary, and Likelihood of Hiring for U.S. Participants Only

Source	df	<i>F</i>	<i>p</i>
Competence	1	.86	.36
Competence X Participant Gender	1	.86	.36
Error	33	(.09)	
Congruence	1	.58	.45
Congruence X Participant Gender	1	1.20	.28
Error	33	(.31)	
Commitment	1	.60	.44
Commitment X Participant Gender	1	.24	.63
Error	33	(.53)	
Credibility	1	.19	.67
Credibility X Participant Gender	1	5.45	.03
Error	33	(.10)	
Perceived Candidate Risk	1	.72	.40
Perceived Risk X Participant Gender	1	8.64	.01
Error	33	(.64)	
Number of Lottery Tickets Wagered*	1	1.90	.18
Tickets Wagered X Participant Gender	1	.04	.84
Error	33	(14.11)	
Salary	1	1.73	.20
Salary X Participant Gender	1	4.87	.04
Error	32	(2.52E8)	
Likelihood of Hiring	1	.13	.73
Hiring X Participant Gender	1	4.44	.04
Error	33	(.80)	

Note: Mean squared error shown in parentheses.

* I also conducted the same analyses using the natural log of tickets wagered and the proportion of tickets wagered on the male versus the female candidate, and they showed similar nonsignificant results.

Discussion

In Study 2, I sought to further test several of the gender-related propositions drawn from the risk model of executive selection, as well as address some of the limitations of Study 1. On the face of it, when considering all of my study participants, the results of Study 2 did not provide any further evidence for my theoretical model; none of the hypotheses were supported. Underlying this apparent lack of support, however, were a number of interesting and supportive findings. In particular, two characteristics of the study participants were important factors driving my results; namely, participant gender and whether participants were citizens/permanent residents of the United States or not. Broadly speaking, I found that male participants tended to evaluate male candidates more favorably than female candidates, while female participants from the U.S. tended to evaluate female candidates more favorably than male candidates. Both groups, favoring individuals of their *own* gender, relied on candidate gender to form assessments of perceived candidate risk and how much a given candidate should be paid in salary. In addition, the male participants used these risk assessments to drive their likelihood of hiring a given candidate. In contrast, female participants from outside the U.S. did not appear to evaluate male and female candidates differently from one another.

More specifically, among male participants, Hypothesis 1, which predicted that female candidates would be perceived as less competent, less congruent, less committed, and less credible than male candidates, was not supported. In contrast, Hypotheses 2 and 3, which predicted, respectively, that female candidates would be perceived as carrying greater candidate risk and would be less likely to be hired than male candidates, were supported. Hypothesis 5, which predicted that the relationship between gender and likelihood of being hired would be mediated by assessments of perceived candidate risk, was also supported. Male participants saw female job

candidates as “riskier” than objectively equivalent male job candidates, and [as a result], they were less likely to hire the female candidates. In other words, males behaved consistently with the core risk propositions of the risk model for executive selection. Because I found no support for Hypothesis 1, Hypothesis 4, which predicted that the relationship between gender and perceived candidate risk would be mediated by assessments of competence, congruence, commitment, and credibility, was also unsupported.

The apparent disconnect between the findings for Hypothesis 1, on the one hand, and Hypotheses 2 and 3, on the other, merits further discussion. Although further research is clearly needed in order to understand this inconsistency, several possible explanations come to mind. First, as I argue in Chapter 2, it may be that male participants’ evaluation of female candidates as “riskier” than male candidates was based on the aggregation of a number of small, seemingly inconsequential biases that were not individually strong enough to be measured with the relatively small sample size available in Study 2. In other words, perhaps male participants *did* assess the female candidates as just slightly less competent, congruent, committed, and/or credible but these slight differences arose to a level of significance only when captured in more aggregate “gut-level” assessments such as perceived risk, target salary, and whom one should hire. The pattern of means generally support this argument, but we cannot draw any conclusions from them, as they may also simply be the result of random variance. Further, statistically aggregating the Four Cs did not generate different findings from analyzing them individually, so unfortunately, this explanation will have to be tested in future research.

A second possible explanation is that participants may have been more closely attuned to behave in a socially desirable fashion—to appear unbiased—when presented with standard evaluative questions such as those relating to the Four Cs than

when considering questions relating to risk. In U.S. society, there is a strong norm of fairness and apparent equality which participants may be loath to appear to violate. However, when faced with questions around risk, where decision making has often been shown to be biased or irrational (Bazerman, 1994), participants may have fallen back on unconscious fears and stereotypes, thus resulting in no apparent difference between the male and female candidates with respect to the Four Cs but a significant difference in the perceived risk ascribed to them.

Third, it is possible that when evaluating the female candidates, participants were applying a double standard to the female candidate relative to the male candidate. As discussed in Chapter 2, a line of empirically well-established research has demonstrated that women may be subjected to such a double standard when individuals assess their level of ability at a given task (Foddy & Smithson, 1999; Foschi, 2000). Because women are expected to be less competent than men, they are held to a higher standard for proving their ability than the standard required for men. In the current context, it is possible that male participants were applying such a double standard to the female candidate. In other words, it is possible that the participants did see the male and female candidates as possessing equal attributes with respect to the Four Cs, but that for the female candidate to be seen as carrying an equal level of risk to that of the male candidate, she had to be *better* than the male.

Further supporting this argument is research showing that women's success is more likely to be attributed to luck or to hard work, whereas men's success is more often attributed to ability (Cash et al., 1977; Deaux & Emswiller, 1974; Etaugh & Brown, 1975; Feldman & Kiesler, 1974). If the male participants engaged in this type of bias, then even if they deemed the male and female candidates as equal with respect to the Four Cs, they might rationally have come to unequal conclusions favoring the male when considering perceived risk, an appropriate salary, or whom to hire because

they wouldn't consider the female candidate's performance repeatable. After all, whom would you rather hire—the lucky candidate or the able one?

Closely related but distinct research in the area of “shifting standards” provides a fourth explanation for the inconsistency of my findings with respect to Hypotheses 1, 2, and 3. According to research in this area, when people are faced with subjective questions, they may use a different standard for one group than another, effectively embedding stereotypes and bias into the scales they use (Biernat & Kobrynowicz, 1997). For example, when asked about a woman, individuals using shifting standards may rate her as “very good,” which in their minds is equivalent to a rating of “average” for a man; implicit in this shift is the notion that men are better than women at the given task; further, the individuals are comparing the man to other men and the woman to other women instead of comparing across gender groups. However, when these same raters are asked more objective, action-oriented questions such as an appropriate salary or likelihood of hiring, they shift to using the same standard across groups. As a result, one might find a pattern of results such as that of Study 2 where the male and female candidates in one instance are rated equally and in another are rated differently.

Finally, it may simply be that some important element that participants were factoring into their assessments of risk and likelihood of hiring were not captured within the constructs of competence, congruence, commitment, and credibility. My theoretical model was not intended to be, nor could it ever be, exhaustive in capturing every aspect of a hiring or promotion decision. Therefore, it would be worthwhile to consider other potential factors in future research. In summary, I believe that it is likely that one or more of the foregoing factors might explain why male participants appeared to evaluate male and female candidates the same with respect to the Four Cs

yet still found women more risky, less worthy of pay, and less attractive as a new hire. However, only future research will provide the answer.

The pattern of findings for female participants was quite different; when considering all female participants, none of my hypotheses were supported. However, factoring in the citizenship or residency of the participants revealed an interesting pattern of results. Specifically, I found that female participants who are citizens or permanent residents of the United States evaluated female candidates as more credible, more deserving of a higher salary, and less risky than male candidates—the exact opposite of the predictions drawn from the risk model of executive selection. In contrast, female participants who were not citizens or residents of the United States did not appear to evaluate the male and female candidates differently on any of my dependent measures. Although it is difficult to explain these patterns of findings, I offer one possible explanation. Anecdotally, after completing the study and reading a debriefing statement explaining that the study was investigating gender bias in executive hiring decisions, a number of the female participants voluntarily commented to me about the personal relevance of the study for them and their desire for me to share my results with them. In particular, they shared their concern that they would encounter gender-based bias in the near future as they searched for jobs following graduation. Given these comments, it seems plausible that my sample of female MBA students—who are soon approaching the job market—may be particularly sensitive to and concerned about gender bias in hiring decisions and, as a result, may have unconsciously engaged in some degree of backlash against the male candidates in favor of the female candidates.

This explanation, of course, does not address the pattern of findings for non-U.S. female participants. Of the total 13 participants in this group, 12 indicated their race as Asian. Given that gender inequality in most Asian countries is greater than in

the United States (Hausmann, Tyson, & Zahidi, 2007), one possible explanation for my findings is that the non-U.S. participants shared the U.S. women's concerns about encountering gender bias, but that greater cultural bias against women implicit in many Asian cultures may have counteracted these effects. Another possibility is that the sample size was simply too small to pick up the relatively small effects of unconscious gender bias in either direction.

One additional research finding from Study 2 is worthy of comment. Specifically, I found that when participants were faced with a forced choice between hiring the male or female candidate, U.S. citizenship/permanent residency had a significant effect on whether the male or the female candidate was hired: U.S. citizens or permanent residents (both male and female) chose the female candidate more often, and the non-U.S. participants chose the male candidate more often. This finding is consistent with my argument above that the non-U.S. citizens (who were predominantly from Asian cultures) may engage in greater bias against women than do individuals from the United States. However, it does not explain why male participants did not choose male candidates more frequently than female candidates, consistent with my other findings, or why U.S. female participants did not choose female candidates more often than male candidates. For the males, it may be that when they were faced with a head-to-head decision, concerns around appearing nonbiased became more salient and that this biased the results. With respect to the U.S. female candidates, as a group, they did choose the female candidate nearly twice as often as the male candidate (13:6); however, given the relatively small sample size, this difference did not meet my standard for statistical significance. It is possible that a larger sample in a follow-up study would produce different results.

Finally, I want to specifically note that I did not find any significant results for my behavioral measure of risk, the number of lottery tickets wagered by participants

on the male versus female candidate. I believe that this lack of findings was related to several flaws in the design of the measure, which are discussed below in the Limitations section. As I footnoted in the tables above, I also ran each of my analyses using the natural log of the number of tickets wagered and the proportion of tickets wagered on the male versus female candidates as additional dependent measures. The results for these analyses were also nonsignificant. A table showing the total number of tickets wagered and proportion of tickets wagered on the female candidate by participant gender and by participant citizenship/residency is included as Appendix Table D.1.

In summary, the findings from Study 2, albeit complex, provided further support for the risk model of executive selection, in particular among male participants in favor of Propositions 3, 8, and 9. Although these findings may seem modest, since men continue to be disproportionately represented (by a large margin) among those who are making executive hires in the business world, their significance should not be underestimated. Further, the results demonstrate that participants of both genders are continuing to base assessments of job candidates at least to some degree on their gender. In other words, we still have a long way to go toward achieving gender equality in these types of decisions.

Limitations

While my findings from Study 2 did build on the findings of Study 1 to provide additional support for the risk model of executive selection, the study does have some limitations. First, my participants were students, albeit MBA students with meaningful work experience and some managerial experience. While it is likely that the participants had some prior experience with making hiring decisions, it is unlikely that this experience was obtained at the executive level. Second, this study as well as

Study 1 necessarily focused on a single industry, the pharmaceutical industry. Although this industry was intentionally chosen because it is moderately male-typed, given that previous research has shown that evaluations of leaders and their teams may be influenced by the level of congruence between the leader's gender and the gender-typing of the industry in which they work (Cabrera, Thomas-Hunt, & Sauer, in press), it would be useful to replicate this research in other industries with different gender compositions and gender-typing. Third, given that my results were largely driven by participant gender and citizenship, the sample size of 61 participants was relatively small. After effectively dividing my sample into three groups, the sample sizes ranged from moderate to very small (males = 29, U.S. females = 19, and non-U.S. females = 13) even for a within-subjects design. In my future research, I will account for the possibility of these effects in the design and use a larger sample size. Fourth, while the within-subjects design allowed me to force participants to make side-by-side comparisons between male and female candidates and had the benefit of being more realistic given that hiring managers typically see more than one candidate when making a hiring decision, it also may have heightened the suspicions of participants that the study was about gender, creating concerns about appearing nonbiased and muting the results. Fifth, as I previously noted, although I intended to present participants with two moderately qualified candidates, manipulation checks showed that participants evaluated the quality of the two job candidates as significantly above average. Given the findings of Study 1 showing no bias against women who were of high quality, this difference may have muted my results for Study 2; at the very least, this study represents a conservative test of the hypotheses.

Finally, as I mentioned above, I believe that my behavioral ticket-betting question suffered from several flaws that resulted in a lack of significant findings. First, given that the question asked participants to bet on whom they believed was

actually hired for the position, it is possible that participants who were not biased but who believed that other people were biased rationally bet based on what others would do instead of what they personally would do. Although I attempted to partially address this issue in my study design by emphasizing for participants that the individual who was hired for the job had performed very well in the position, this possibility remained. To address this flaw, I could add a second betting measure in which participants are given the opportunity to bet a portion of their tickets on whether their candidate was subsequently the best-performing individual among all of the candidates. In order to implement this measure, I would tell participants that although only one individual was hired for the position, the subsequent career progress and performance of all of the candidates had been tracked and can be compared. I believe that by asking participants to bet on whether their candidate was the best performer, I can eliminate the possibility that participants are betting on the biased actions of others. Of course, with this additional question, I cannot eliminate the possibility that participants believe performance assessments are also gender-biased. However, I do think that it takes a partial step toward addressing the current flaw in my behavioral risk measure.

Second, because it was important to limit the possibility that participants would be suspicious that this was a gender study, they were told that they would be reviewing only two of eight candidates for the position. However, in my behavioral measure, they were only allowed to bet on the two candidates they reviewed. It is possible that some participants realized that one of the six candidates whom they did not review might have been hired for the position and factored this information into their odds of winning. Participants who did factor this information in may have bet very differently from those who did not, creating substantial variance. The actual data in Study 2 for the ticket-betting measure provides some support for these concerns.

First, the means for both male and female participants favored the female candidate, suggesting that male participants may have potentially relied on an implicit theory about affirmative action hiring in making their bets. Second, although there were quite large differences in the mean number of tickets wagered on male versus female candidates, these differences were swamped by equally large variance in the bets. In order to correct this second flaw in my measure in future research, immediately prior to the betting question, I could tell participants that all eight candidates were ranked in order of preference for hiring and then ask them to bet on which of the two candidates they reviewed was ranked higher in terms of likelihood of being hired and actual future performance.

CHAPTER 5:

GENERAL DISCUSSION AND CONCLUSIONS

In this dissertation, I have provided a new take on the old problem of gender inequality. Specifically, I presented and began to test a new theoretical model—the risk model of executive selection—that attempts to further unpack the question of why there are so few women at the top of the U.S. business world. This model draws on and integrates literature from the study of both gender and risk to consider how the perceptions of risk associated with hiring or promoting an executive are influenced by gender bias and stereotypes and, in turn, how these gender-based risk perceptions influence hiring decisions in ways that disadvantage women on their ascent to the C-suite. My results across both studies provide support for the portion of the model that was tested. The results from Study 1 first demonstrated that perceived candidate risk is a key mechanism driving hiring decisions. They then showed what biases individuals are engaging in as they conclude that women are riskier job candidates than men, and how those risk assessments translate into women being hired less frequently than identically qualified men. The results of Study 2 provided further support for the model, showing that men perceive female candidates as riskier than male candidates and, as a result, are less likely to hire them.

Theoretical and Managerial Implications

The theoretical model and empirical findings presented in this dissertation make several contributions both to theory and to practicing managers within actual business organizations. First, this research represents the development of a new model of executive advancement, bringing the fresh lens of risk assessment to the process of hiring and promotion. Research has shown that fundamental to strategic decision

making is a risk assessment process in which the decision maker weighs the relative risks and rewards of various decision scenarios in an effort to arrive at an optimal choice (Baird & Thomas, 1985; McNamara & Bromiley, 1999). Other work has demonstrated that the selection of a top management team is one of the most critical strategic decisions undertaken by an organization (Gupta, 1992; Guthrie & Datta, 1998; Westphal & Frederickson, 2001). In my theoretical model, I combine these two areas by explicitly looking at the process of making hiring and promotion decisions as a process of risk assessment. In doing so, I believe that I have begun to fill an apparent gap in the existing literature and potentially a gap in the understanding of practicing managers and the organizations for which they work.

Second, in extending this model to consider the different ways in which the gender of a job candidate affects risk assessments and hiring decisions, I integrate a substantial and diverse body of gender research into a coherent framework that can be applied to the question of why there are so few women in leadership positions in the business world. There already exists a large body of gender research focused on explicating the individual processes and factors contributing to gender inequality. In creating my theoretical model, I have drawn heavily on this excellent work. However, the question of why there are so few women in leadership roles is a complex one, as this phenomenon is likely driven by multiple processes operating simultaneously to disadvantage women. Therefore, it is important to take a more systemic perspective in studying this question.

Unlike most previous research, this project takes such an approach by simultaneously considering the impact of perceptions of competence, congruence, commitment, and credibility on risk perceptions and hiring decisions. As a result, the research can help to clarify not just whether women are perceived as riskier than men but also why. Specifically, because I consider all four of these factors, I have been

able to begin investigating the impact on risk perceptions and hiring of each factor individually *and* their effect in combination, thus allowing us to better understand which elements contribute to and are most important in influencing perceptions of the relative risks of hiring men versus women. For example, the results of Study 1 suggest that perceptions that women are less committed and less congruent than men are particularly important factors contributing to the perception that they are riskier to hire than men. Somewhat surprisingly, the results also suggest that differential perceptions of competence may no longer be playing an important role in these assessments.

Third, by integrating research from the fields of both gender studies and risk and decision making, this research takes a novel approach that may provide a new level of understanding for practicing managers and which may make the development of policies aimed at reducing gender inequality more tractable. Eliminating biases driven by a deep, culturally embedded set of gender beliefs is very difficult; however, it is imperative that we do so. In an increasingly competitive global environment, organizations recognize that they must fully utilize the talent pool available to them. Unfortunately, although they know it is costly, organizations often do not know how to address issues of inequality, particularly when such issues are driven by subtle or unconscious biases. Further research such as the work undertaken in this dissertation is necessary to provide members of our society with the knowledge and tools to successfully combat gender and other forms of inequality. Most business organizations are adept at making risk/reward tradeoffs and decisions across many contexts. By enabling organizations to see gender inequality through a familiar lens, this research may help them to develop and enact more effective policies in their efforts to create gender equality. For example, organizations might consider making risk considerations a more explicit part of hiring and promotion decisions, and managers might be encouraged to explicitly consider relative risk and reward considerations in

their management of human capital in the same ways that they apply those considerations to financial capital. In doing so, those organizations and individuals might begin to recognize that they have been systematically overattributing risk to nearly half of their workforce and, in doing so, have also been systematically limiting their potential for success.

Limitations and Opportunities for Future Research

Like any research, the work presented in this dissertation has some limitations. As I have already discussed in the individual chapters presenting Studies 1 and 2, these limitations include some flaws inherent in the studies' design, including the use of undergraduate and MBA students instead of actual executives as participants; the fact that the context for both studies was a single industry; and the fact that the studies were experimental in nature. Although using an experimental design allowed me to completely control the objective qualifications of the candidates being considered, thus eliminating performance- or qualification-related alternative explanations for my results, it also limited the external validity of my findings because my study participants were asked to *imagine* themselves as a hiring decision maker rather than to actually *make* a hiring decision.

Further, in Chapter 4, I noted two potential flaws in my behavioral ticket-betting measure of perceived risk. The first issue, which affected both studies, was that the question asked participants to bet on who they believe was actually hired for the position, creating a possibility that participants who were not biased but who believed that other people were biased rationally bet based on what others would do instead of what they personally would do. The second issue, which applied only to Study 2, was that it is possible that some participants realized that one of the six candidates they did not evaluate might have been hired for the position and they factored this information

into their odds of winning. Interestingly, the ticket-betting measure did not generate any significant findings in Study 2, largely because of very high variance in the results, whereas in Study 1 the measure provided consistent and significant results in support of my theoretical model. Across the two studies, this may suggest that the second flaw in the measure was more problematic than the first. Nonetheless, in future research, I clearly will attempt to correct both of these issues using some of the alternatives I suggested in Chapter 4.

In addition to my findings for the ticket-betting measure, there were some other inconsistencies in my results across the two studies. Specifically, the results of Study 1 provided strong support for the risk model of executive selection across participants of both genders for all of my hypotheses, while the results of Study 2 provided only partial support for the model among male participants only. These inconsistencies may be at least partially due to differences in the two studies' designs. In Study 1, I asked relatively inexperienced undergraduates to read a short vignette describing a company, a position for which they were hiring, and a single candidate for the position, while in Study 2, I asked more experienced MBA students to review much more extensive information on two candidates for a position. Because participants in Study 1 were provided with less information and were more unfamiliar with the world of "senior executives," they may have relied more heavily on stereotypes in their decision making than did the participants in Study 2, thus accounting for some differences in the results. This is consistent with research demonstrating that gender bias is greater when evaluators are presented with ambiguous or insufficient information about the quality of performance (Heilman, 1995, 2001; Heilman et al., 2004; Nieva & Gutek, 1980; Tosi & Einbender, 1985). In addition, because participants in Study 2 were asked to review a male and a female candidate side by side, the potential for suspicion about the focus of the study—and

therefore, the potential impact of social desirability bias (Paulhus, 1984) —was greater. This also may have had the effect of muting the results of Study 2 versus Study 1. Finally, although I intended in Study 2 to present participants with two moderately qualified candidates, manipulation checks showed that participants evaluated the quality of the two job candidates as being significantly above average. Given the findings of Study 1 showing no bias against women candidates who were of high quality, this difference may have muted my results for Study 2, also explaining some of the inconsistency of results across the studies.

With respect to the differences in behavior of the female participants between Study 1 and Study 2, I refer the reader back to Chapter 4 where I discussed why male and female participants might have behaved differently from one another in Study 2. In particular, I believe that this difference may be the result of the particular sample (MBAs) that I used, and the female participants' heightened sensitivity to potential gender bias they expect to encounter as they soon approach the job market. However, this is only a speculative argument, and there is clearly a need for further research to understand how participant gender drives relative assessments of male and female candidates for hire.

In order to address a number of these issues, I hope in the future to replicate Study 2 with a sample of actual executives in an industry other than the pharmaceutical industry. Ideally, the study would be sponsored by a company and masked as a training or actual hiring decision. This design would allow me to more directly test the effects of gender on risk and hiring decisions in the real world, would ensure that the participants are experienced at making executive-level hiring decisions, and would also eliminate the need to tell participants a complex story to avoid suspicions about the nature of the study. A large accounting firm has expressed an

interest in conducting such a study but unfortunately is not ready to move ahead until later this year or next year.

The other significant limitation of the work presented in this dissertation is that it represents only a partial test of the risk model of executive selection. In fact, I believe that I have only scratched the surface with respect to the model. Clearly, further work is needed to solidify the findings of Study 1 and 2 and to unpack the effect of participant gender and country of origin on the relative assessments of male and female job candidates, as well as to explore other potentially influential characteristics of decision makers such as risk propensity and affinity, age and achieved status. Beyond that, in the current work I tested only a subset of the propositions suggested by the model and tested those only with respect to hiring decisions. It would be quite interesting to investigate whether my findings would hold in promotion contexts, where decision makers often have more individuating information and personal experience with the candidates.

In addition, although Studies 1 and 2 did begin to provide tests of the congruence between women's perceived and actual commitment, and the relative impact of credibility on perceptions of male and female candidates, further empirical research exploring these questions is clearly needed. While recently a number of researchers have conducted empirical work exploring women's commitment to their careers (Fels, 2004; Hewlett & Luce, 2005; Mainiero & Sullivan, 2005), clearly additional work is needed to disentangle what is simply mass perception of women's commitment and what is reality. Further, we need to gain a better understanding of the factors that push women away from the workplace and pull them elsewhere, removing talented, ambitious women from the path of executive advancement.

Similarly, a common theme throughout both academic literature and the popular press is that professional women have a credibility problem; their accomplishments and abilities are suspect, and they are often taken less seriously than their male counterparts. In future work, I would like to further refine the credibility construct to determine where it overlaps with or encompasses perceptions of competence, commitment, and congruence, and where it is distinct from them. The current literature does not provide a clear-cut definition for this important construct; I would like to help fill this gap in both our conceptual definition of credibility and our measurement of it. Additionally, as discussed in Chapter 2, one solution frequently proffered to combat this problem is for women to actively develop influential “sponsors” who can lend both legitimacy and access to their informal social networks. Whereas both the existence of this credibility gap and the suggested solution seem plausible, further work is needed to understand the relative benefit of such relationships for men versus women, as well as whether particular types of sponsors are more effective for women than others.

My future work will also include testing the propositions related to exogenous risk and its interaction with perceived candidate risk. These include Propositions 1a and 1b, which suggest some of the circumstances in which exogenous risk will be higher or lower, and Proposition 4, which suggests that the level of exogenous risk associated with a hiring decision will moderate the effects of perceived candidate risk on hiring decisions. Given the interactive and cumulative nature of the processes I have elaborated herein, it is crucial that future research explores the dynamics between processes; I would like to conduct research, for example, that attempts to understand how decision makers’ separate evaluations of candidate risk and exogenous risk combine to influence one another; how assessments of an individual’s credibility affect assessments of their competence and commitment and vice versa; and how all of

these processes cumulatively and differently affect the perceptions, aspirations, and decisions of men and women. While research investigating individual aspects of our model have been and will continue to be valuable for improving our understanding of why there are so few women at the top, I believe that even more vital is research that explicitly acknowledges and explores the risk associated with these component processes, considering them as part of one larger system in which accumulated disadvantages are promoted by each and compounding effects are derived from their simultaneous interactions.

Finally, I have not yet tested the notion suggested in Proposition 10 that the disadvantages female candidates face with respect to both candidate risk and exogenous risk will increase as they move higher within organizations. In this case, I suspect there is a boundary condition to this proposition in that once women reach a *very* high level (such as CEO of a large organization), they may benefit from some of the overvaluation effects demonstrated in other research (Abramson et al., 1977; Heilman et al., 1988), at the same time that women one or two levels lower in organizational hierarchies will experience the greatest gender bias. To attack this question and identify the potential boundary condition, I hope to run a series of identical studies in which participants evaluate candidates vying for positions at varying levels to see where gender bias is the greatest.

Conclusion

In this dissertation I presented and began to provide evidence for a new theoretical model that brings together research on gender and risk to partially explain why there are still so few women at the top of the U.S. business world. The identification of perceived risk as a major factor that limits the advancement of women to the executive ranks may provide an effective avenue for addressing the persistent

gender inequality within the leadership ranks of U.S. society. Eradication of stereotypes and misperceptions is a complicated and uncertain process. In contrast, providing additional assurances that create increased tolerance for nontraditional hires and their associated risk or that mitigate the perceived risk associated with making these hires may be a more immediate avenue for achieving women's advancement. After all, organizations, and in particular, corporations, understand the concept of risk; therefore, demonstrating to these organizations that decision makers may often be systematically overestimating the risk associated with hiring and promoting women may lead to recalibration of these risk assessments and a more level playing field.

APPENDIX A:
STUDY 1 STIMULUS MATERIALS

Directions for participants:

Below is an actual job posting for a company seeking to hire a senior executive, as well as a description of an actual candidate who applied for the position. The names and a few minor details about the company and the candidate have been changed to protect their privacy, but all of the other information is real. Some of the participants in the study will read a description of the candidate who was actually hired for the position and has proven to be excellent in the position. Other participants will, instead, read a description of a candidate that applied but was not hired. You will not know whether the description you read was for the successful candidate until the end of the study because we do not want that information to influence your own impressions of the candidates.

Please imagine that you are the individual who is responsible for hiring the best candidate for this very important position. Then read the job posting and candidate description and answer the survey questions that follow. A hard copy of the job posting and candidate description has been provided to you for your use while answering the survey questions.

EXECUTIVE VICE PRESIDENT OF SALES AND MARKETING

PharmaGen, Inc. was founded with the mission of developing, manufacturing, and marketing innovative pharmaceutical products. Sales are done primarily through a direct sales force marketing to hospitals, wholesalers, distributors and physicians. The Company is in solid financial condition with no debt and in excess of \$400 million in annual sales, putting it in a strong position to support continued growth. PharmaGen is a dynamic company in search of an enthusiastic, motivated, and capable individual to replace our current Executive Vice President of Sales and Marketing, who is retiring in December 2008. This position reports directly to the CEO and is considered a key member of PharmaGen's leadership team.

Candidate requirements:

The successful candidate must be experienced, energetic, and able to thrive in a fast growth environment. This individual will be responsible for overseeing the Company's sales and marketing organization, including managing a sales force of approximately 100 individuals, directing the assessment of new product opportunities and working with product development and regulatory affairs personnel to assure timely approvals and launch new products. The Company is looking for an individual with a proven track record of producing results in a high level sales and marketing position. The successful individual must be extremely confident, be able to operate independently with limited supervision and have a minimum of 15 years sales and marketing experience, with a minimum of 5 years in management. A college degree is required and an MBA is a plus.

Primary responsibilities:

- Manage a direct sales force of approximately 100 marketing to hospitals, wholesalers, distributors and physicians.
- Grow sales per the Company's short-term and long-term plans
- Direct assessment of new product opportunities and determine the appropriate product pricing strategy to properly position PharmaGen within the market place
- Manage the sales support organization that handles customer orders and customer inquiries in a timely, efficient manner
- Manage all market image development material, including the Company's website, advertising and sales promotional materials, to obtain maximum exposure and market penetration
- Interface with and coordinate business intelligence activities, presenting all market business threats with appropriate response mechanisms, and new business opportunities; ensures that complete competitive market intelligence is maintained
- Lead the development of department goals, budgets, objectives and systems

Professional Qualifications/Skills:

- 15+ years of successful marketing, sales and product strategy experience, including 5+ years in a managerial or leadership role
- Must be a visionary and strategic thinker who can contribute at the senior management level on high-level Company decisions
- Demonstrated leadership skills focused on the development and motivation of staff
- Executive professional presence with verifiable high standards of ethics and integrity
- Demonstrated high energy level with an unusual competitive spirit and the desire to have fun winning
- Ability to work in a fast-paced, constantly evolving environment that requires effective multi-tasking
- Excellent organization and communication skills (written, verbal and presentation)
- Ability to travel as required
- BS/BA degree required; MBA degree a plus

The Executive Vice President of Sales and Marketing is a salaried position with significant incentive bonus. Other benefits include 100% paid medical/dental insurance with prescription benefits, paid holidays, paid vacation, and 401(k) with Company matching.

Candidate Description – HIGHER QUALITY

[Jack/Jane] Roberts is currently the Executive Vice President of Sales and Marketing for a pharmaceutical company with approximately \$200 million in annual sales.

[Jack/Jane] reports directly to the CEO and is responsible for overseeing a direct sales force of approximately 50 people. [He/She] also is responsible for the development of the company's product and marketing strategy and the creation of its marketing and sales materials. While holding this position, the company has succeeded in growing sales at a rate consistent with the rest of the pharmaceutical industry.

[Jack/Jane] has a total of 16 years of pharmaceutical sales and marketing experience, with 6 years in management. He/she has been with her current employer for 8 years; prior to that he/she was a pharmaceutical sales representative for one other PharmaGen competitor.

In [his/her] application cover letter, [Jack/Jane] indicated that while [he/she] has been successful and relatively satisfied in his/her current position, [he/she] is seeking a job which provides greater challenges, autonomy in decision-making, a larger platform for growth and more fast-paced, hard-driving sales culture. In addition, Jack/Jane

described him/herself as “dynamic”, “ambitious” and “ a strong, experienced leader who knows how to motivate and drive others to succeed”.

[Jack/Jane] holds a B.A. in Marketing from Rutgers University and an MBA from Virginia Tech University. [He/she] is also an elected officer of the National Association of Pharmaceutical Sales Representatives.

Candidate Description – LOWER QUALITY

[Jack/Jane] Roberts is currently the Vice President of Sales and Marketing for a pharmaceutical company with approximately \$200 million in annual sales.

[Jack/Jane] reports directly to the EVP for Sales and Marketing and is responsible for overseeing a direct sales force of approximately 50 people. [He/She] also participates in the development of the company’s product and marketing strategy and the creation of its marketing and sales materials. While holding this position, the company has succeeded in growing sales at a rate consistent with the rest of the pharmaceutical industry.

[Jack/Jane] has a total of 12 years of pharmaceutical sales and marketing experience, with 3 years in management. He/she has been with her current employer for 5 years; prior to that he/she was a pharmaceutical sales representative for two other PharmaGen competitors.

In [his/her] application cover letter, [Jack/Jane] indicated that while [he/she] has been successful and relatively satisfied in his/her current position, [he/she] is seeking a job which is closer to his/her residence (he/she currently commutes 1 hour each way per day), allowing for somewhat greater work/life balance while still providing professional challenges and opportunities for advancement. In addition, Jack/Jane described him/herself as “laid-back” and “reliable” with “solid managerial skills and a go with the flow attitude”.

[Jack/Jane] holds a B.A. in Marketing from Rutgers University. [He/she] is also a member of the National Association of Pharmaceutical Sales Representatives.

Survey Questions

1) Using a scale of 1 (not at all) to 5 (extremely), to what degree do you think [Jack/Jane] Roberts is:

Understanding
Friendly
Sincere
Warm
Intelligent
Good-natured
Independent
Kind
Competitive
Well-intentioned
Organized
Trustworthy
Skilled
Helpful
Capable
Self-confident
Likeable
Efficient
Aggressive
Respected
Credible
An expert
Competent

2) On a scale of 1 (not at all) to 5 (very much), to what extent:

Are you confident that [Jack/Jane] Roberts is qualified for this job?

Will the other executives of PharmaGen think [Jack/Jane] Roberts is qualified to do this job?

Do you think [Jack/Jane] Roberts is similar to PharmaGen's other executives?

Are you confident that [Jack/Jane] Roberts will be compatible with PharmaGen?

Do you think you would like socializing with [Jack/Jane]?

Would you like [Jack/Jane] Roberts as a co-worker?

Would you be willing to ask [Jack/Jane] Roberts for advice?

Do you think the executives of PharmaGen see [Jack/Jane] Roberts as a good fit for the company?

Would you like to be friends with [Jack/Jane] Roberts?

Does [Jack/Jane] Roberts fit the demands of the job?

Does [Jack/Jane] Roberts fit with PharmaGen?

3) On a scale of 1 (strongly disagree) to 5 (strongly agree), to what extent do you agree with the following statement?

[Jack/Jane] Roberts appears willing to put in a great deal of effort beyond that normally expected in order to make PharmaGen successful.

If hired, [Jack/Jane] Roberts will be loyal to PharmaGen.

[Jack/Jane] Roberts cares about the fate of PharmaGen.

If [he/she] accepts the job, it would take a lot of changes in [Jack/Jane] Roberts 's present circumstances to cause [him/her] to leave PharmaGen.

The values of [Jack/Jane] Roberts and PharmaGen appear to be congruent.

[Jack/Jane] Roberts would probably accept almost any type of job assignment in order to get and keep the position.

If hired, [Jack/Jane] Roberts will have a strong sense of belonging to PharmaGen.

[Jack/Jane] Roberts would be very happy to spend the rest of [his/her] career with PharmaGen.

[Jack/Jane] Roberts probably feels [he/she] has too few career options to consider NOT taking the job if offered it.

If hired, [Jack/Jane] Roberts will be highly committed to PharmaGen and [his/her] job.

4) On a scale of 1 (not at all) to 5 (extremely),

How confident are you that [Jack/Jane] Roberts will be successful in the job?

How confident are you that [Jack/Jane] Roberts is the best person for the job?

To what degree would you be willing to stake your reputation on hiring [Jack/Jane] Roberts?

To what degree would you be willing to stake your reputation on [Jack/Jane] Roberts succeeding?

How worried are you that [Jack/Jane] Roberts will be unsuccessful (fail) in the position?

How likely would you be to hire [Jack/Jane] Roberts if you knew that you would be evaluated based on [his/her] success?

How confident are you in [Jack/Jane] Roberts 's skills and abilities?

5) The typical salary for this position is in a range of \$250,000 to \$400,000. How much would you offer [Jack/Jane] Roberts if [he/she] was selected? _____

6) How much of a risk is it to hire [Jack/Jane]?

No risk

A little risk

Moderate risk

Significant risk

Extreme risk

7) You read a description of a candidate for an executive position that was *actually* filled by a pharmaceutical company. Some of the participants in the study read a description of the candidate who was actually hired for the position and has proven to be excellent in the position. Other participants, instead, read a description of a candidate that applied but was not hired. We purposely did not tell you whether the description you read was for the successful candidate because we did not want that information to influence your own impressions of the candidates.

As part of the compensation for participating in this study, you will be given 10 lottery tickets, each of which represents one entry into a lottery drawing for \$200. In this question, you have the opportunity to bet between 0 and 10 of those tickets on whether [Jack/Jane] Roberts is the candidate that was actually hired as Executive Vice President for Sales and Marketing of PharmaGen and that has proven to be excellent in the position. If you are correct in your bet, the number of tickets you bet will be doubled, thereby doubling your chance to win the \$200 prize. If you lose the bet, you will lose the number of tickets wagered.

For example, if you bet 5 tickets that [Jack/Jane] was the candidate hired for the position and were correct, you would double the tickets that you bet and thus, receive 15 tickets in total (5 bet X 2 plus 5 not bet). If you made the same bet and were incorrect, you would lose the tickets you bet and thus, receive only 5 tickets (5 bet X 0 plus 5 not bet).

How many tickets do you wish to bet on the fact that [Jack/Jane] Roberts is the candidate that was actually hired as Executive Vice President of Sales and Marketing for PharmaGen?

8) Using a scale of 1 (all women) to 11 (all men), please indicate the gender composition in the pharmaceutical industry of:

Executives

All employees

9) Ranging from entirely female-typed to entirely male-typed, how would you characterize the gender-typing of the pharmaceutical industry?

10) How many years of full time work experience do you have? _____

11) How many years of experience do you have managing other people? ____

12) What is your highest level of education?

High school
2 year college
4 year college
Masters
PhD

13) What is your age? _____

14) What is your gender?

Male
Female

15) What is your race?

Caucasian
Asian
African American
Latino or Hispanic
Native American
Other

16) Do you have any comments on this survey?

Thank you for participating in this study. If you have any follow-up questions, please contact the researcher, Susan Cabrera, at sfc24@cornell.edu, or 917-922-0111. Please click on the arrow below to complete the study and have your responses recorded.

APPENDIX B:

SCALE ITEMS

Competence:

- 1) Capable
- 2) Efficient
- 3) Skilled
- 4) Intelligent
- 5) Independent
- 6) Competent
- 7) Organized

Credibility:

- 1) Trustworthy
- 2) Respected
- 3) An expert
- 4) Likeable
- 5) Have confidence in their skills and abilities
- 6) Credible

Commitment:

- 1) [. . .] appears loyal toward the organization.
- 2) [. . .] really cares about the fate of the organization
- 3) It would take a lot of change in [. . .] present circumstances to cause [her/him] to leave the organization
- 4) [. . .] feels a strong sense of belonging to the organization
- 5) [. . .] would be very happy to spend the rest of [her/his] career with this firm

Congruence:

- 1) “To what degree does this applicant fit with your organization?”
- 2) “To what extent is this applicant similar to other [insert company] employees?”
- 3) “To what extent will other employees think this candidate fits well in your organization?”
- 4) “How confident are you that this applicant would be compatible with your organization?”
- 5) “To what extent does this applicant fit the demands of the job?”
- 6) “To what extent will other employees think this candidate is qualified to do this job?”
- 7) “How confident are you that this applicant is qualified for this job?”

Perceived Risk:

- 1) Indicate the risk category (ranging from no risk to extremely risky) that best expresses the amount of risk you perceive in hiring this candidate.
- 2) How confident are you that this candidate will be successful in the job?
(reverse scored)
- 3) How confident are you that this candidate is the best person for the job?
(reverse scored)
- 4) To what degree would you be willing to stake your reputation on this candidate succeeding? (reverse scored)
- 5) How worried are you that this candidate will be unsuccessful (fail) in the position?

APPENDIX C:
STUDY 2 STIMULUS MATERIALS

CANDIDATE A

Confidential Profile

[AUDREY/FRANK] JOHNSON

Candidate for the Position of

Vice President of Sales and Marketing, Eastern Region

**PharmaGen, Inc.
Cambridge, MA**

March 2005

The following evaluation has been prepared for the exclusive use of the client named above. Its use should be controlled and limited to designated executives concerned with the selection of the candidate, and under no circumstances should the evaluation contained herein be transmitted to the candidate.

The accompanying report represents a composite of information furnished by the candidate, including an overview of the candidate's background, a summary of the candidate interview by The Boston Group, the cover letter accompanying the candidate's resume and the resume.

AUDREY JOHNSON

RESIDENCE

1131 Piedmont St.
Belmont, MA 02478

EDUCATION

MBA, Marketing Management, 2000
Fisher College of Business, Ohio State University, Columbus OH

BS, Business Administration, 1995
University of Minnesota, Minneapolis MN

CAREER SUMMARY

Audrey, age 32, has approximately nine years of work experience, all in sales and marketing functions, including 6.5 years in pharmaceutical sales, training and sales management (3 years). Audrey also has 3 years of experience (2 years in a management role) in marketing and public relations outside of the pharmaceutical industry.

2000 to Jan. 2005	Medigen International, Inc. – BioSciences Division, Detroit MI
2002 to 2005	Midwest Regional Manager
2000 to 2002	Michigan Territory Business Manager
1997 to 1998/Summer 1999	Carex Pharmaceuticals, Livonia MI
Summer 1999	Rotational Sales Training Associate
1997 to 1998	Professional Medical Representative
1995 to 1997	Identity Marketing and Public Relations, Dearborn MI
1996 to 1997	Sales and Marketing Manager
1995 to 1996	Sales and Marketing Associate

INTERVIEW SUMMARY

Brian Kenney of The Boston Group interviewed Audrey in person on March 3, 2005. The interview lasted for approximately 1.5 hours. They discussed Audrey's educational and employment history, her general and job specific qualifications and skills and her level of interest in the position with PharmaGen. Audrey attended the University of Minnesota with a focus on business and did well, graduating in the top 20% of her class. During college, she was an intern with a public relations firm, which led to her accepting a job post-graduation in marketing and public relations. Audrey held the position of Associate for one year and based on excellent performance, was promoted to Sales and Marketing Manager where she gained experience in developing and implementing marketing plans, including direct mail, advertising, event marketing and some online programs. During her time at Identity Marketing and Public Relations, Audrey met another pharmaceutical sales representative and although she says she liked her job and the firm tried to keep her, Audrey wanted to try this new career path. She accepted an entry-level sales job with Carex selling prescription drugs to physicians and hospital pharmacists and performed well (see resume). In 1998, after 1.5 years of direct sales experience, Audrey decided to pursue an MBA. During the summer between the two years of business school, Audrey worked as a sales trainer for Carex. After graduating from Ohio State in 2000, Audrey was recruited into a more senior level direct sales position with Medigen, selling bio-surgery equipment. Based on solid performance, Audrey was promoted to Midwest Regional Manager in 2002. Audrey said she enjoyed her job, in particular the experience of managing twelve other territory representatives, but recently relocated to the Boston area. She is looking to move up in the area of pharmaceutical sales, as well as further develop her marketing skills. Audrey is also seeking the opportunity to manage a larger group of individuals. She agrees that the job would represent a "step up to the next level" but is eager to take on this position if offered it. Audrey appears to be a nice person who one could get along with well. She has good communication skills and could clearly articulate her interest in the position. She has strong medical technical sales knowledge and believes her marketing knowledge is sufficient to meet the demands of the position. Audrey has an engaging and warm style, with a moderately high energy level. She seems quite interested in the position, but is apparently early in the search process.

Audrey Johnson

1131 Piedmont Street
Belmont, MA 02478
(248) 262-6805
audrey_johnson@gmail.com

February 19, 2005

Brian Kenney
Recruiting VP
The Boston Group
809 Bedford Road
Boston, MA 02116

Mr. Kenney:

I am enclosing my resume for your review in response to your advertisement for the position of Vice President of Sales and Marketing, Eastern Region at PharmaGen.

With almost a decade of experience in sales and marketing, I have successfully served as a sales representative or sales manager for three companies, as well as managed budgets, planned major events, and assisted in the development of marketing materials.

I believe that my energy and flexibility, professionalism, and years of working with a wide range of people and businesses, have prepared me to take on the role of Vice President of Sales and Marketing at PharmaGen. I have excellent managerial and marketing experience, having worked most recently as a Midwest Regional Manager at Medigen International. During my tenure, my region consistently met or exceeded its sales targets. The bulk of my work experience has been in the Detroit, Michigan metropolitan area but I have recently moved to Boston. While I am very proud of the valuable connections I have fostered and accomplishments I have achieved throughout my years in Detroit, I welcome the new and exciting opportunities the Boston area and PharmaGen have to offer. In my work I emphasize proficiency and effectiveness in addition to positive visibility in the community. My proven track record demonstrates the success of my growth strategies. I am confident that I can provide sales and marketing leadership within the company.

My salary requirements are negotiable and I am prepared to discuss them with you in detail if I am given the opportunity to interview for this position.

It would be a great pleasure to meet with you to discuss my qualifications. I can be reached by email at audrey_johnson@gmail.com and by phone at (248) 262-6805. Thank you for your time and consideration.

Yours sincerely,

Audrey Johnson

Enclosure: Resume

Audrey Johnson

1131 Piedmont Street
Belmont, MA 02478
(248) 262-6805
audrey_johnson@gmail.com

EXPERIENCE

Medigen International Inc., BioSciences Division – Detroit, MI

Midwest Regional Manager

(3/02-1/05)

- Responsible for sales in a region generating over \$10 million in annual revenues.
- Managed twelve territory managers and recruited new talent when necessary.
- Developed sales targets and related expense budgets, as well as strategic plan to achieve targets.

Michigan Territory Business Manager

(7/00-3/02)

- Responsible for selling bio-surgery products used to promote hemostasis and wound healing in surgery.
- Implemented sales strategies developed by Midwest Regional Manager to attain sales volume, product mix and profit objectives.
- Called on prospective customers, providing technical and administrative product information and demonstrations.
- Monitored sales against forecasts and participated in the determination of market potential for the territory.
- Results: Met or exceeded sales volume and profit targets each year, attaining compounded annual sales growth of 13% during 4.5 years at Medigen. Recruited and developed three new territory managers and assisted in sales launch of two new medical device products.

Carex Pharmaceuticals – Livonia, MI

Rotational Sales Training Associate

(5/99-8/99)

- Facilitated Caraco's Initial Training Classes.
- Reconstructed Product Positioning Program for national distribution
- Developed update of prescription training curricula.

Professional Medical Representative

(3/97-8/98)

- Responsible for sales of a full line of prescription products, primarily to Internal Medicine, Family and General Practitioners, Orthopedic Surgeons, Rheumatologists, Neurologists, retail and hospital Pharmacists.
- Results: Finished #19 out of more than 100 sales reps in sales contest based on market share, market share change and percentage of quota. Top 15% of sales force in first year. Winner of Lou Gehrig Award as the most promising new sales representative in Michigan.

Identity Marketing and Public Relations –Dearborn, MI

Sales & Marketing Manager

(7/95-3/97)

- Implemented integrated sales and marketing plan: Corporate & institutional sales, direct mail, display advertising, event marketing, online promotions, telemarketing, and channel-specific relationship building activities.
- Managed and coordinated corporate meetings and parties, and activities for departmental employees and sales representatives.
- Fully implemented site selection, contract negotiation, menu selection and marketing materials for events.
- Guided corporate website re-development for design, architecture, and content.
- Wrote copy for direct mail, display ads, online promotions, press releases, newsletters, and book covers.
- Results: Earned greater number of orders, recruited more individual customers, expanded wholesale channel, increased textbook market share, and generated nearly 40% increase in gross revenues over same prior year-to-date period.

SKILLS & KNOWLEDGE

- Strong organizational, analytical, planning, negotiation, sales, team management, and leadership skills
- Excellent relationship management and interpersonal communication skills

EDUCATION & TRAINING

Fisher College of Business, The Ohio State University – Columbus, OH

(9/98-6/00)

Masters in Business Administration

- Field of Specialization in Marketing Management

University of Minnesota- Minneapolis, MN

(9/91-6/95)

BSc. Business Administration

- Internships: public relations firm, telecommunications company

VOLUNTEER ACTIVITIES

- Neighborhood Coordinator, Motor City Makeover clean city program. Detroit, MI (9/00- 1/05)
- Program Coordinator, Young Alumni Association of Detroit. University of Minnesota (7/95-9/98)

CANDIDATE B

Confidential Profile

[FRANK/AUDREY] H. ROBERTS

Candidate for the Position of

Vice President of Sales and Marketing, Eastern Region

**PharmaGen, Inc.
Cambridge, MA**

March 2005

The following evaluation has been prepared for the exclusive use of the client named above. Its use should be controlled and limited to designated executives concerned with the selection of the candidate, and under no circumstances should the evaluation contained herein be transmitted to the candidate.

The accompanying report represents a composite of information furnished by the candidate, including an overview of the candidate's background, a summary of the candidate interview by The Boston Group, the cover letter accompanying the candidate's resume and the resume.

FRANK H. ROBERTS

RESIDENCE

603 Floyd St.
Arlington, MA 02474

EDUCATION

MBA, Marketing, 1999
Olin School of Business, Washington University, St. Louis MO

BS, Management, 1995
University of Maryland, College Park MD

CAREER SUMMARY

Frank Roberts is 31 years old, with 9 years of experience in marketing and sales positions, including 5 years working as a marketing consultant to the biotech and pharmaceutical industries and 3 years as a pharmaceutical sales representative. He spent two years prior to business school as a district sales manager with responsibility for supervising a direct sales force of 8 people. More recently, during 3 of his 5 years as a consultant, Frank has led and managed consulting teams within his firm.

1999 to 2004	Keystone Group, New York NY Client Strategy Consultant – Biotech and Pharmaceuticals Group
Summer 1998	Singlebrook Marketing Solutions, St. Louis MO Strategy Summer Associate
1995 to 1997	Aventar Pharmaceuticals, Bridgewater NJ
1996 to 1997	District Sales Manager, Hudson Valley NY
1995 to 1996	Professional Sales Representative, Hudson Valley NY

INTERVIEW SUMMARY

Brian Kenney of The Boston Group interviewed Frank in person on February 23, 2005. The interview lasted for approximately 1.25 hours. They discussed Frank's educational and employment history, his general and job specific qualifications and skills and his level of interest in the position with PharmaGen. Frank received a BS in management from the University of Maryland in 1995 and soon after accepted a position as a pharmaceutical sales representative with Aventar Pharmaceuticals. During his 1.5 years in the position, Frank increased sales in his region substantially (see resume), resulting in his promotion to District Sales Manager for the Hudson Valley, NY. Frank held this position for 1.5 years during which he managed 8 sales representatives and exceeded annual sales targets. In 1997, Frank began work on his MBA at Washington University. When he embarked on his MBA, Frank expected to return to a sales role of some kind post-graduation. However, during school, he did a summer internship with a small marketing consulting firm in St. Louis, found the work interesting and as a result, elected to complete a concentration in marketing during the second year of his MBA. Following graduation, Frank accepted a position with the Keystone Group as a marketing strategy consultant focused on advising biotech and pharmaceutical companies. In this position, Frank worked on and then led consulting teams for a number of large clients. In each case, he enabled his clients to achieve quantifiable success in their marketing efforts (see resume). Frank indicated that he enjoyed his five years working in marketing consulting, but had been thinking about pursuing a position that would combine his more extensive experience in marketing with his pre business school work in pharmaceutical sales. His recent relocation to the Boston area created the opportunity to take his career in a new direction. Frank believes the PharmaGen position would be challenging and professionally developmental for him and although he acknowledged that it has been some time since he worked in direct sales, he feels confident he is a good fit for the job. Frank is articulate, with solid technical knowledge of the pharmaceutical industry. Underlying his likeable, friendly style is a lively and competitive personality. Frank is in active conversations with one other potential employer, but expressed genuine enthusiasm about the PharmaGen position.

FRANK H. ROBERTS
603 Floyd Street, Arlington, MA 02474
781.707.4029
frankroberts98@hotmail.com

January 23, 2005

Brian Kenney
Recruiting Vice President
The Boston Group
809 Bedford Road
Boston, MA 02116

Dear Mr. Kenney:

I write in response to your recent website posting for Vice President of Sales and Marketing, Eastern Region for PharmaGen, Inc.

I have been employed in strategic marketing and sales roles for the last nine years including several years managing consultants and pharmaceutical sales representatives. My performance during this period manifests troubleshooting skills, energetic leadership and an insightful understanding of the clientele, and demonstrates my broad interests and versatility. You will see from my resume the extent of my work in marketing and sales and the results I have delivered. I am currently searching for a new position that exposes me to more challenging responsibilities and a greater exchange of creative ideas concerning contemporary sales and marketing issues, and would like to find out more about the position at PharmaGen.

Throughout my career, I have explored a wide variety of responsibilities and catered to a highly diverse clientele including substantial work in the biotechnology and pharmaceutical sectors. This continuing desire to explore the pharmaceutical sales and marketing field and take advantage of new opportunities has led me to apply for this position.

While my work has thus far been based in the New York metropolitan area, I have recently relocated to the Boston area. I am excited about this opportunity, and look forward to continuing my professional development and community involvement in another unique and dynamic urban environment.

In regards to my salary requirement, I am flexible. I would be happy to discuss salary and benefits, along with job requirements in an interview.

I look forward to hearing from you regarding this position. Please contact me by email at frankroberts98@hotmail.com or by phone at (781) 707-4029. Thank you for your time.

Sincerely,

Frank Roberts

Encl: Resume

FRANK H. ROBERTS

603 Floyd Street, Arlington, MA 02474

781.707.4029

frankhroberts98@hotmail.com

EXPERIENCE

KEYSTONE GROUP, New York, NY

1999-2004

Client Strategy Consultant – Biotech and Pharmaceuticals Group

- Identify and evaluate new business development opportunities and outline campaigns for clients. Create strategic communications plans, sales presentations, website content, marketing copy, and press kits. Projected results: 20% improvement in campaign response rates for new campaign in year 1, 12% improvement in year 2, 8% improvement in annual retention rates. \$4M in overall marketing benefits by 2006.
- Build business justification for significant marketing investment to improve marketing and service capabilities. Define and model campaigns. Results: Fifteen high potential initiatives expected to produce \$6M in incremental revenue in year 5.
- Develop program strategy for group tasked with creation of cross-sell opportunities across business units. Model earning potential for group's first set of cross-sell programs. Work with individual business units to launch pilot programs. Projected results: Programs expected to gain \$2M in incremental EBITDA for company in year 1.
- Develop value-based strategy to align senior management under one customer-focused approach. Implement sales strategies, including differentiated product offerings, unique messaging, and tiered allocation of sales resources.
- Oversee marketing and content group responsible for website content and day-to-day execution of marketing plan.
- *Clients include several large biotech and pharmaceutical companies in the greater NY/NJ area.*

SINGLEBROOK MARKETING SOLUTIONS, St. Louis, MO

Summer 1998

Strategy Summer Associate

- Created customer-based, small business entry strategy for telecommunications provider.
- Developed 5-year portfolio strategy and investment reallocation with Board of hospitality company.
- Worked with internal marketing group to develop positioning and marketing strategies.
- *Clients included: Winstar, Starwood Worldwide*

AVENTAR PHARMACEUTICALS, Bridgewater, NJ

District Sales Manager, Hudson Valley, NY
1997

1996-

- Responsible for managing a sales force of 8 representatives selling to all physician-specialties, HMOs and hospitals in the Hudson Valley, NY.
- Developed and executed against sales targets for district. Met targets in 1996 and exceeded prescription and dollar targets by 12% and 14% YTD 1997. District generated approximately \$2M in sales in 1996.

Professional Sales Representative, Hudson Valley, NY
1995-1996

- Responsible for sales in the private practice physician's office, hospitals, HMOs, independent and chain pharmacies and assigned medical meetings. Physician specialties called upon include: Gastroenterologists, OBGYNs, Pulmonologists, Internists, and Primary Care Physicians
- Assisted District Manager in Master Action Plan planning and execution
- #6 region market share for prescription product
- Achieved 15% and 12% increase in prescriptions in 1995 and 1996 respectively
- Attained 11% and 9% dollar increase for all promoted products over 1994 and 1995 respectively

EDUCATION

OLIN BUSINESS SCHOOL, WASHINGTON UNIVERSITY IN ST. LOUIS

June 1999

Master of Business Administration, St. Louis, MO

Major in Marketing

UNIVERSITY OF MARYLAND

May 1995

Bachelor of Science, Management, College Park, MD

OTHER

Volunteer Coordinator, American Red Cross, New York, NY

2001- Present

Warehouse Assistant & Support Staff, Hudson Valley Food Bank, Hyde Park, NY

1996-1997

APPENDIX D:

MEANS AND STANDARD DEVIATIONS TOTAL TICKETS WAGERED

AND PROPORTION OF TICKETS WAGERED ON THE FEMALE

CANDIDATE BY PARTICIPANT GENDER AND PARTICIPANT

CITIZENSHIP

Appendix Table D.1. Means and Standard Deviations Total Tickets Wagered and Proportion of Tickets Wagered on the Female Candidate by Participant Gender and Participant Citizenship

Mean (Standard Deviation)			
Male Participants (n = 29)		Female Participants (n = 32)	
Total Tickets Wagered	Proportion on Female	Total Tickets Wagered	Proportion on Female
6.34 (3.60)	.50 (.40)	7.63 (3.29)	.54 (.38)
U.S. Citizens (n = 31)		Non-U.S. Citizens (n = 29)	
Total Tickets Wagered	Proportion on Female	Total Tickets Wagered	Proportion on Female
6.40 (3.56)	.59 (.41)	7.85 (3.23)	.44 (.34)

Note: None of the difference between means are statistically significant at $p < .05$.

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